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NEWS IN BRIEF

14 redundant
at Infotech

BLAMING the overall UK recession, training and conference session organiser Infotech has made 14 staff redundant at its Maidenhead headquarters. The firm said that it had been geared for business which had not happened. Worst hit were its two-day technology briefing sessions which had a high percentage of UK clients and accounted for 20% of its business.

The briefings are aimed at clients planning new projects like the implementation of databases.

Late Times

TALKS between management and unions at The Times to try to get computerised typesetting equipment have failed to make expected progress and plans to start using the new kit for The Times Literary Supplement on November 7 have been dropped.

AA drops Quotel

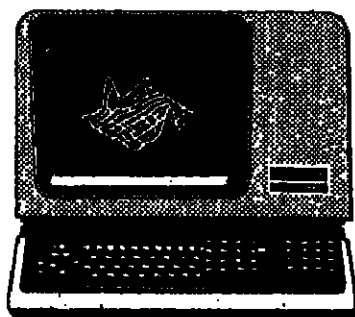
THE Automobile Association has dropped the computerised car insurance system Quotel in favour of an in-house developed system. Quotel was used on a bureau basis to give customers quotations over the phone from regional and central offices of the AA.

Lloyd's losses

TOTAL losses by Lloyd's underwriters from policies they wrote on the residual values of IBM machines on third party leases could amount to \$420 million according to the latest estimate by the First National Bank of Boston.

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Westminster DP
group planned

A MERGER is being proposed between the All-Party Committee on Information Technology, a group of MPs and peers, and the Parliamentary Computer Forum, for those outside Parliament, in order to form a single influential body to put forward the industry's views and keep MPs informed.

Briefing sessions, informal meetings, visits and dinners would all be part of the programme, supported by full-time secretarial staff.

The merger has to be approved by the forum's AGM, probably in January. It is hoped to cover the expected budget of about £20,000 a year through voluntary contributions from individuals and companies as well as through subscriptions. The administration would probably be contracted to a Parliamentary agent.

Some workers have
suffered, IFIP told

WHILE computers have been a definite plus for the overall US economy, evidence indicates that workers in certain fields have suffered badly because of automation, says Dr Bruce Gilchrist of the Columbia University Centre for Computing Activities in New York.

Addressing delegates at the 1980 IFIP Conference at Melbourne, Dr Gilchrist pointed out that from 1951 (when the first production line computer was installed in the US) to 1979, the total number of

people in employment rose from 60 million to 90 million.

Presenting a paper entitled "Computers and employment: the US," he said: "One must conclude that the overall impact of computers on employment has been either positive or completely masked by other effects."

Gilchrist said re-training programmes had not, so far, concentrated on people laid off because of computerisation and that unemployment benefit was still considered by some as degrading.

The success of IFIP 80 and, more particularly, the exhibition may have "set a new tradition" for Australia as a venue for such major events, so said organising committee chairman Ashley Goldworthy, winding up the conference.

With over 1,800 delegates attending the Australian segment of the conference over its four days, the event could unhesitatingly be called "a tremendous success," said Goldworthy.

On the conference side, it was not only the bare number of registrants which had been encouraging, said programme organiser

DPS delays blamed for
slump in profits

TWO new models have been added to Honeywell's DPS 8 line in the US - but the firm has blamed a fall in third quarter profits in part on problems with a DPS 8 circuit board at the Phoenix factory where the large systems are manufactured.

The DPS 8 is the successor to the medium-to-large Level 66 machines. The new models in the US are a dual processor version of the 8/44, called the 8/44D, and a field-upgrade of the 8/52.

Called the 8/62, the latter machine offers about 30 per cent better performance than the 8/52, and can be field-upgraded to the top-of-the-line DPS 8/70. The DPS 8/20 is field-upgradable to an 8/44, and on to the new 8/44D dual processor. A processor change is needed to move to an 8/52.

The 8/44D has about the same

questions about various aspects of computer technology, applications, and policy issues.

Subset

Thus the Aard report (CW, October 2) regarded information technology as a subset of microelectronics rather than an all-embracing term taking in control systems and information science. APPIIC is intended to cover as broad a field as possible.

The next briefing session to be held at the Houses of Parliament will be on "Computer-aided learning: breakthrough or gimmick?" on November 24.

Among the speakers will be Richard Hooper, director of Prestel, formerly director of the

National Development Programme on Computer-aided learning.

Under current plans the senior officers of APPIIC will be elected by MPs in the group, while the other officers will be elected from the membership at large. Current chairman of the All-Party Committee is Ian Lloyd, MP (Con, Havant). Reaction so far from Forum members to the idea of a merger has been favourable, since activities have been co-ordinated in the past.

They also felt there was too much of a mixture of "the micro and the macro" in the recommendations in the statement, according to the council president, Sir Raymond Pennock.

There was, however, a need for the CBI to have an overall statement on technical change, he said, and consequently the confederation's staff had been asked to prepare a draft for a CBI-only version.

In the original statement the TUC had wanted a clause forbidding compulsory redundancy, but this was changed to say it "should be avoided wherever possible". The TUC did concede that new technology "may transform traditional divisions within the workforce" and that it had a joint responsibility to establish mechanisms to allow change to take place.

The Typetronic is due for launch in December and should come to the UK early next year. UK price has not yet been fixed.

CBI members snub
joint TUC concordat

A JOINT agreement on technology worked out by officials of the CBI and the TUC has been rejected by the CBI's members, despite having been approved by the TUC's annual congress. The agreed statements' references to the desirability of consultation and common consent made some members of the CBI's 400-strong governing council feel that technical advances would be delayed as a result.

They also felt there was too much of a mixture of "the micro and the macro" in the recommendations in the statement, according to the council president, Sir Raymond Pennock.

There was, however, a need for the CBI to have an overall statement on technical change, he said, and consequently the confederation's staff had been asked to prepare a draft for a CBI-only version.

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Prestel director Richard Hooper is to address the next briefing session of the Parliamentary Computer Forum.

Sound
approach
to
typing

A KEYBOARD which uses ultrasonics in place of switches, the central feature of an electronic typewriter just launched by IBM in the US at a retail price of \$100, considerably less than conventional competition. The machine promises to be the first in a series of electronic office products from SCM, including word processor.

The ultrasonic keyboard is claimed to be more reliable than conventional keyboards with its switch for every key, as it has fewer parts. Apart from this, Typetronic, as the typewriter is known, is fairly typical of IBM's breed, with a daisy-wheel printer, 10-character memory for corrections, and electronic tabs.

A rod runs underneath the keyboard with teeth of different shapes extending from it, one to each key. On depression, a bar from the key strikes the teeth, setting up vibrations which are picked up by piezoelectric crystal at either end of the rod. The resulting electrical signals, which are different for each key, are decoded by a chip which then sends the appropriate control signals to the daisy-wheel head in the usual way.

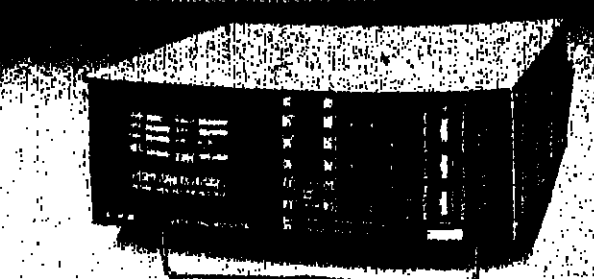
The printer, which runs at 10 characters per second, is of IBM's own design and manufacture. The company is quick to assert it is a terminal, and so might not be suitable for incorporating in a word processor.

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INSIDE
THIS
ISSUE

THIS second issue of Computer Weekly in a week is solely devoted to jobs. Specially contributed articles detail what's on offer, how much they pay, and advice on the skills most in demand.

The focus for this Recruitment Special is our own Compec show at London Olympia next week (November 4-6). It will be the largest gathering of the UK computer industry to date, and is the ideal time to examine the job market.

Inside are the views of employers, educators, politicians, consultants and trade unionists - plus the experiences of someone trying to get into the industry. They start with the stance of the government:

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Free job finder
service on
offer at Compec

ALL the jobs advertised in this issue will be displayed at Compec's free job finder service designed to match an individual's skills and background to the jobs available. It will be an extra bonus to a Compec visit.

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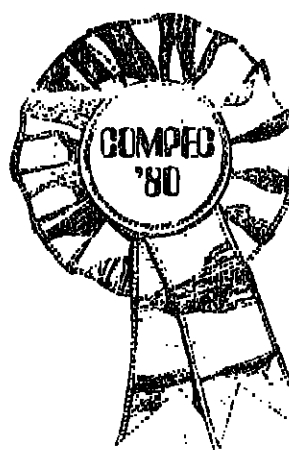
Print-out

He then receives a print-out of all the jobs in this issue which match his profile. The print-out gives a brief job description con-

about by technological change is the knowledge that we have found our niche in the new temple.

There are hundreds of computer-related vacancies in a land where more and more people are having idleness forced on them, some as a direct result of computerisation.

It is against this backdrop of local health within a general malaise that we bring out this year's



RECRUITMENT SPECIAL

Number 731

Thursday, October 30, 1980

Price 25p

An oasis of prosperity
in a desert
of decline

by PAUL FISHER

A WALK round the Olympian arcades of Compec next week will be evidence enough that the computer industry is booming - while a look at the streets outside the exhibition has plenty to suggest a period of economic decline.

The cost of computing, with the happy exception of the price of our labour, is still falling. Elsewhere inflation rules. Cutting across the talk of social dislocation brought

Compec recruitment supplement.

The production of a recruitment supplement, full of recruitment advertisements, at a time when 2,062,900 people are registered as unemployed, would seem like an attempt to sell ice cream to Eskimos.

The success of the supplement is a clear demonstration of the continuing demand for skilled personnel. Such an optimistic statement must immediately be tempered by emphasising that it is skill which is in demand, and not just people. Nobody wants to employ uneducated bodies, however keen and eager those bodies might be.

Time and again our contributors have stressed the need for an appropriate education. Speaking for the government from the Department of Industry, Michael Marshall says: "We need designers who are trained to look at their work in a microelectronic context. We need mechanical engineers who are familiar with microelectronic hardware and software. Above all we need to attract a fair proportion of our best brains from our schools, universities and colleges into the fields that matter."

Intellectual

Dame Judith Hart picks up the same theme, saying: "Our difficulty is that over the decades the intellectual values of our society have given more worth to the generalist, the classicist, the historian and the arts than to the hard practical areas of science, mathematics and technology."

She continues: "At the moment only 4% of all secondary pupils have access to computing facilities." She criticises public expenditure cuts and says: "We are talking of spending more on educating our children to meet the challenge of the future, but without any extravagant or unrealistic proposals."

The specialist, so long as his or her skill doesn't happen to be mental typesetting or blacksmithing, will always be in demand, but we need to create a constant supply of specialists.

One of the messages from this supplement is that we need to give people specific skills from an early age.

Before the Flood, Noah didn't need to know about the theories of precipitation; all that was necessary were some rudimentary boat building skills. Appropriate skills keep people away from the dole queues.

We would be burying our heads in the sand, however, if we claimed that a knowledge of computers was an automatic insurance

● Turn to page 48

Away from the rough and tumble of the exhibition floor is the nervous tranquillity of the interview room. It's the way of all flesh to end in one at some time or another.

W
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IN THE
MIDDLE EAST

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'Micros will leave no one and nothing in Britain untouched'

WHEN I was invited to contribute this feature, I was asked to say which sectors in the computing field the government regarded as having the biggest growth potential. I can do so quite simply: they are those on which microelectronics is going to have the greatest impact.

This might seem to be begging the question, but it isn't. Microelectronics - and unfortunately too few firms in this country have yet woken up to the fact - is going to leave nothing and no one in Britain untouched: no sector of industry, no sector of commerce, no company, no individual. The microprocessor (or more precisely, the microcomputer) is now being used in sectors and applications where only a year or so ago, computing would have been ruled out by the cost and/or relative bulk of the machines then available. This process will inevitably accelerate. In other words, microelectronics is already transforming our industrial and commercial world, and changing the computer scene.

Revolution

So what I am saying is that the computing field can no longer be looked at as the distinct entity it once was. For me to try to pinpoint particular growth sectors in the space available here would therefore serve no useful purpose.

Our greatest asset as a nation is our inventiveness. Invention and innovation are what count in microelectronics. So if we are quick enough in acquiring the skills and rethinking our attitudes there is no reason why we should not be up among the leaders. But we need to reappraise system design - and every other aspect of our industrial and business life - in microelectronic terms. And we need to start now.

I think it more sensible to talk in terms of generic areas, for this will allow me not only to suggest to my readers the zones and skills they should be thinking about, but also to emphasise the importance of government attitudes to the so-called Microelectronics Revolution.

The government believes that the well-being of this country's industrial and commercial base depends to a great extent on two things: first, the readiness of firms (and here I mean, of course, both management and workforce) to accept the new technology; second, their capacity to exploit it better and more rapidly than overseas firms which have appreciated its potential and are already doing something about it.

People are at last beginning to recognise that British productivity is in general well below that of our rivals, and that to pay ourselves more than we even in terms of what we produce is to price ourselves out of the market, and hence out of jobs. If we can link this belated recognition of the facts of economic life to the scope and opportunities microelectronics offer us, we shall be able to heave ourselves up to the levels of efficiency and competitiveness which other industrial countries accept as the norm. If we can't (and this is un-

Michael Marshall, Conservative MP for Arundel, is Parliamentary Under-Secretary of State at the Department of Industry. In this article he stresses the need to take advantage of new technology and summarises the activities of MAP and ACARD.

thinkable), it won't be long before we find ourselves outsid in every way by overseas competitors who are eager to exploit the new opportunities. Time is short.

Specialists

Our greatest asset as a nation is our inventiveness. Invention and innovation are what count in microelectronics. So if we are quick enough in acquiring the skills and rethinking our attitudes, there is no reason why we shouldn't be up among the leaders. But we need to reappraise system design - and every other aspect of our industrial and business life - in microelectronic terms. And we need to start now.

We need designers who are trained to look at their work in a microelectronic context. We need mechanical engineers who are familiar with microelectronic hardware and software, and we need software and hardware specialists working alongside them as a matter of course. Above all we need to attract a fair proportion of the best brains from our schools, universities and colleges into the fields that matter.

Which are the fields that matter? I mentioned earlier that they are best discussed as generic areas. Broadly, then, microelectronics is going to make its presence most felt in two areas: manufacturing industry, and what has come to be called information technology (IT).

In manufacturing industry, the cheapness, reliability, compactness and high performance of the microcomputer and other microelectronic devices are well on the way to revolutionising the logic, control, data-processing, monitoring, detection and measuring instrumentation used in products and processes. Firms which still rely on electro-mechanical devices to perform these functions would therefore be well advised to do some quick thinking about the near future before it's too late. Particularly about the skills they are going to need when they take the plunge into microelectronics.

Awareness

The Department of Industry is helping to establish microelectronics in manufacturing industry through its Microprocessor Application Project (MAP). MAP was launched to make firms aware of the importance of the new technology, and to encourage them to apply microprocessor techniques in their products and processes.

The aid available is provided under the following three heads: industrial awareness and training, where the aim is to draw the microprocessor's potential to the attention of people at all levels in industry, and to alleviate the shortage of people adequately skilled in microelectronics technology; feasibility studies and consultancy support, which is to encourage manufacturing firms, particularly small or medium-size companies, to consider the possibility of using microprocessors; the Department will pay up to £2,000 of the costs if they employ a consultant to look at their products and processes with this aim in mind (normally only the first such study will qualify for support); and development projects, where financial assistance, usually as a 25% grant (exceptionally as a 50%

shared-cost contract, with the Department's contribution recovered by a levy on sales), is available towards the cost of developing products or processes involving the application of microelectronics. Detailed information is available from the MAP Centre, telephone 01-212 34115.

The importance of microelectronics is now at least recognised by about half the firms in manufacturing industry - even if there are still far too few doing enough to turn recognition into action.

MAP deserves credit for this. For example, there are now 30,000 short-term microelectronics training places where there were only 2,500 before.

More than 130,000 people have attended MAP awareness seminars; about 65,000 shopfloor workers have attended courses through the TUC training programme; and so far over 1,600 feasibility studies and 340 new projects have been supported. Nevertheless there is still a long way to go even in this field.

Definition

The road to full awareness of information technology is likely to be just as difficult, for its implications are as yet little understood in this country, perhaps because of

● Turn to page 45



Michael Marshall

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Educate the educators — call by Labour

WE face the future of a new era in which microelectronics displace workers, and reduce working hours. But — if the right industrial policies are carried out — it is a future in which productivity and the wealth of Britain is immeasurably increased. In all of this, the role of education becomes crucial.

We say in our Labour Party discussion document: "Why were we unaware that an international technology race was under way until five minutes to midnight? It reflects a deeply rooted defect in our educational and social values. In the past, we have promoted literacy in the arts at the expense of numeracy and literacy in technology. We have consistently undervalued practical technological understanding; and this in turn has produced generation after generation of decision-makers in our society who do not have it. Yet they tend to create the intellectual

environment and values which are dominant."

Our difficulty is that over the decades the intellectual values of our society have given more worth to the generalist, the classicist, the historian and the arts than to the hard practical areas of science, mathematics, and technology. Over and over again universities and colleges of technology have focussed on the imbalance in the emphasis our society gives to the arts as against sciences. Now the issue confronts us in all its stark reality.

Reorientation

The Finniston Committee of Enquiry of Engineering: Our Future is the latest to say that Britain's industrial future depends upon a reorientation of our educational values.

It is now essential, as we say in our report, that the educators

themselves are educated; that every child in school has the opportunity to become familiar with the processes of the new technology, and to understand its methods. Not all will necessarily go on to use it in their work experience, although very many will in the years to come.

It is crucial that every child develops a comprehension of the world in which he is going to work and live.

Microelectronics are becoming a central element of the language of our society. In practical terms all schools should have computing facilities — either a computer of its own or access to a large computer. At the moment, according to a recent Department of Education Report, only 4 per cent of all secondary pupils have such access: most of them are "from the high attainment group", and distribution is patchy.



Dame Judith Hunt has been Labour MP for Lanark since 1980 and was Minister for Overseas Development between 1974 and 1977. Here she emphasises the changes need to be made to education and among educators to take advantage of the opportunities of microelectronics.

rent national planning which based on an understanding where we think we are going. There. The challenge of microelectronics presents to us such drastic changes in employment lifestyle that the issues must be translated from the technological to the social; and that means "political", too. The community has the right to ask that government poses the issues, explains them, presents coherent policies.

Thrust

So far I have talked of education for an understanding of the industrial revolution which is occurring in our society, and of the change in emphasis needed to develop our own industrial processes and skills to achieve a better thrust which has almost disappeared in the last few years, because there has been such inept failure to create an initiative in the manufacture of hardware and a number of software. But, of course, the need for understanding and education stretches so much further.

We know that the effects of employment, however combined, we quantify them, will be great for technical skilled and unskilled workers, and particularly for women. Indeed, the Equality

Intervention

We say: "None of this can be left to the free market. The education of our children and our people cannot be left to the caprice of commercial suppliers, most of whom at present operate within the framework of foreign transnational corporations. We need, and must have, firm intervention by central and local government, with the assistance of educational researchers, to make sure that we have the best for ourselves, and to create a base for potential exports of learning systems."

But, of course, spending on essential school infrastructure can only be effective if teachers themselves understand what they are teaching. On this our report says: "It is vital that all teachers are trained to understand and use information technology in their subjects. This will mean in-service training and changes in initial teacher training. An expansion of specialist training will be essential for teachers in those subjects most closely related to the new technology — mathematics, physics and electronics. And we shall need very many more teachers of computer technology."

Changes

It will mean — or should mean — changes in school courses, to allow for specialist information technology courses and information technology courses; and it ought to mean an early intensive look by the examination boards at their own need to promote the vital curriculum changes which are needed by encouraging relevant examinable courses.

Beyond the age of 16 our universities and polytechnics have a crucial role. A clear strategy for both teaching and research must be developed and supported. In-service training for qualified scientists and technologists; cross-sector training, greater interchange between education and industrial professionals; and paid study leave for training and re-training. All these are elements in the programme we need.

In the area of science and research policy, although there is close co-operation between the Science Research Council and industry in the field of science and engineering, we lack an institutional framework for resource allocation which takes into account any considered concept of overall social objectives, which would necessarily involve a degree of public accountability involving every element in our community, not least the trade unions. We must work our way towards that. But, of course, it will be possible only with a...

We need to consider education for living: not the 'education for leisure' which has so often been suggested... We need to ask the question: what do we want to do with the time released from the factory floor, the shop counters and the office desk? The choice must be free.

opportunities Commission report last week that within 20 years 170,000 typing and secretarial jobs will have disappeared. To this must be added the loss of jobs of shorter working weeks for day workers and many in the service industries. The social changes produced by the chip are, we believe, likely to be as dramatic in their effects as was the industrial revolution of the late 18th and 19th centuries.

There will be, as we say, a new dimension in social relationships just as the Industrial Revolution created an urban working class which had to fight its way to the exploitation and poverty of the new technology will create a divergence between those whose work is no longer needed, and those whose work is needed, and those whose work is unaffected or enriched. Microelectronics could therefore intensify inequalities.

Can the increased production which will result from microelectronics be equally shared? This lies the key political question.

Turn to page 45

MYRIAD

DATA COMMUNICATIONS ENGINEERS

£7,000-£10,000

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We are seeking additional ELECTRONICS ENGINEERS at all levels to join an INTERNATIONAL Product Engineering Group.

Market Leaders in the data communications industry our client can offer an excellent future whether you already have experience in this field or whether you have an electronics design background, preferably including micro-processor and LSI experience, and an interest in this rapidly expanding market.

Joining as a Product Engineer you will be trained fully and will build up the knowledge to provide specialist product support, advice and consultancy both within the company and to users throughout Europe. In order to do this you are likely to be a graduate (or equivalent) and to have a positive interest in communications technology.

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Our client offers:

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- ★ Project responsibility
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- ★ Planned career progression
- ★ Regular education & training

You need:

- ★ Innovation, energy & resolution
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The company is a highly successful organisation and offers a full range of employee benefits and job security.

Ref: N1/3010

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★ PROGRAMMERS ★ ANALYSTS ★ TEAM LEADERS

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£7,000-£10,500

The retail industry is becoming increasingly sophisticated and is still growing healthily. Our Client, a front runner in this industry and a household name has a vast number of outlets with a wide geographic spread. The growing size and complexity of their retail operations has led them to embark upon a major project to extend their interactive communications system.

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A large international company is expanding its data processing operation by adding a network of mini computers to its powerful IBM mainframe. These small machines will support DATABASE applications and all programming is in COBOL.

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c.£7,000

To specify and develop COBOL programs, applicants will have a good academic record with a minimum of twelve months commercial experience, preferably gained in an IBM environment.

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£8-£9,500

These positions require systems analysis/design knowledge and will have the extra responsibility for project implementation and the supervision of programming staff.

The Company offers employee benefits commensurate with other major organisations and is very accessible by road and rail.

Ref: S1/3010

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c.£8,500

This is an ideal opportunity for IBM ASSEMBLER Programmers to make that important next move to establish themselves on an exciting career path.

Our client, a leading company in their field, is seeking additional programming staff to contribute to an extensive data processing development programme over the next five years. Full use will be made of Database and Real-time techniques.

The Company can offer you pleasant working conditions, up-to-date IBM hardware, an excellent salary and benefits, and the opportunity for positive progression to senior positions within the company.

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Effective computing demands up-to-date skills in specialist techniques and methods. NCC Training provides a comprehensive range of courses in programming, data communications, systems analysis, and database.

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Efficient computing involves everyone in the DP department. NCC Training is for managers, project leaders, analysts, designers, programmers, and operators.

Successful computing also depends on the user organisation understanding the computer. NCC Training gives general management, auditors, and other users a thorough appreciation.

Computing evolves as the technology changes. NCC Training is continuously up-dated and new courses added to keep you in touch with new needs like security, micros, and the electronic office.

NCC Training

Every computer user has different training requirements. NCC Training is available through public or private residential courses, in-house courses, and as packaged audio visual material, so that you can tailor your training programme to your individual needs.

NCC—if it's about Training we can help



NCC Training is for everyone working with, affected by, using, planning for, or starting a career in computers.

Send for your copy of our Training 81 brochure today.

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Oxford Road Manchester M1 7ED Telephone 061 228 6333

I would like further information on NCC Training:

Name _____ (Please print name)

Position _____

Organisation _____

Address _____

Telephone Number _____

NCC CW 1/80/m

Free trade – and some State intervention – is Liberal prescription

THE Liberal Party Assembly this year overwhelmingly passed a resolution calling for government assistance to new industries "relevant to the 1980s." Past resolutions had already laid the groundwork for the party's "lets get on with it" attitude, with policies for increased technical literacy in the school and a recognition in counselling services that young people may well have three or four different jobs in their working lifetimes.

Liberals are firm adherents to the principles of the free market, and free trade, but they also believe that it is the responsibility of government to ensure that everyone is playing by the same rules.

Thus, they accept that governments need to intervene where the markets are not operating properly, and they see a number of areas in the current "new technology" industries where government help is vital.

First, there is the question of government assistance to micro-electronics. How can the UK's private industry compete with the hundreds of millions of pounds being invested by Japan, the US, France or West Germany?

By delaying the meagre injection of £25 million to Immos by seven months, for example, the Tories may well have seriously damaged its strategic development plan. If the company does manage to get

back on course, it will be in spite of, rather than because of, the government's attitude.

Second, there are the cash limits placed on British Telecom, a strategic industry if there ever was one. These cash limits will not only limit our own development in information technology, but will probably seriously reduce our chances of selling our expertise abroad.

Lead lost

Similarly, our initial lead in viewdata technology may well be lost to France, who, by planning to give away viewdata sets to every telephone subscriber, are creating the mass market they need, rather than waiting for it to develop.

Third, government involvement is urgently required in the setting of import tariffs. At present, individual chips and components are taxed at 17%, while assembled boards and computers are taxed at 5.8%. This is a direct disincentive to our computer firms, who assemble imported components into systems, and has significantly added to the difficulties faced by such companies as Nascom.

While these tariffs are set by the EEC rather than the UK alone, our government has made no effort to get them changed and seems simply unaware of the effects these tariffs are having.

It seems similarly unaware – or

uninterested – in the difficulties faced by manufacturers of high technology products faced by large scale imports of similar products from abroad.

Free trade is vital for the UK, which depends on exports for its very survival, but there is still no need to allow other countries to get away with either the dumping of goods to establish their markets, or reciprocal importing arrangements which are often a sham.

Killed

In the case of the last UK electronic cash register company, for example, Chubb, the unsupervised import of Japanese models has killed the whole business.

The call of local Tory MP, Andrew Bowden for import controls, knowing his party would not even consider it, must be a sick joke to the 400 workers out of a job in this instance alone.

While the Tories' doctrinal refusal to help and foster our high technology industries is severely threatening our future industrial base, their lack of imagination and leadership in the field of education and training is just as serious.

The government has announced a £9 million programme for computer students in schools, of which £1 million is to be spent this year. This works out at about 25p per secondary school child. What sort of contribution to their technical

DELIA VENABLES is prospective Liberal Parliamentary candidate for Brighton Pavilion. At present she is running Microcomputer Advisory Services, a private company which provides assistance to small firms considering the purchase of a first computer.



competence can this possibly make?

Compared to the French plan for "a micro in every school" – still not an overgenerous concept – it is a bad joke.

To the best of my knowledge, there are no plans to provide equipment in the schools and no plans to set up a common purchasing body such as exists for universities to negotiate bulk discounts and ensure some basic compatibility.

Incidentally, it is important that computers are not just seen as necessary for technical training. It is vital that all children should have experience of using small computers and terminals so that they are able to cope with the increasing use of such things in their ordinary working and leisure environments.

Training

Technical colleges, polytechnics and universities would willingly

increase their electronics and computer studies courses, but are simply unable to do so in the face of the current cuts in their budgets.

There is still a reasonable number of courses for the "high flyers", but what is particularly lacking is the commitment to training the much larger number of "ordinary" people for the technological world we live in.

What surely needs to be increasingly realised is that our industrial performance probably depends more on the attainments of the "Indians" than the "Chiefs" – and it is in this area that we appear to be particularly weak.

While Liberals argue strongly that our commitment to training in DI and electronics needs to be substantially increased, it is still true that, as a nation, we do not always use efficiently the skilled manpower that we have.

Think of all those local authorities, all over the country, busily writing their own housing maintenance, personnel management,

rate collection or electoral registration systems!

The same duplication of effort takes place at water boards, local authorities, and police forces. Sustained initiative from government to encourage the sharing of resources and expertise in the public sector would probably save more money – and free up valuable staff – than many of the other cuts which are affecting services very seriously.

Incomes policy

Liberals believe that a wage freeze for all – and the index disruption which goes with it – is deeply damaging to our economy and that a long-term price incomes policy is the only way to avoid severe disruption of our services, and runaway inflation.

We believe it is a very damaging way of reducing inflation than the present method.

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MODUS

International Personnel Consultants
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148 Watling Street, Radlett, Herts. WD7 7JH
Telephone: Radlett (09276) 3077

Cobol Programmers and Systems Analysts

Hampshire £6,000-£9,000 + generous benefits worth approx. £1,500 + relocation assistance

Programmers

Successful candidates will be experienced COBOL programmers, on any machine, batch or real-time. Exposure to commercial or financial applications would be useful.

Systems Analysts

Applicants should have good in-depth systems analysis experience. Preference will be given to those with an insurance or accounting systems background.

The Company is a leading name in the financial world with a strong commitment to expansion in several areas over the next five years. This growth is already underway, and the company needs additional ambitious Programmers and Analysts who are now looking for a challenging career opportunity in an exciting D.P. environment. Candidates must be personable and articulate, with a commitment to using the highest professional standards. Initial interviews will be held in London by Modus and candidates can be assured of a speedy reaction.

Technical Authors

Norway - Italy - U.K. Bedfordshire/Berkshire

Modus has been exclusively retained to recruit Technical Authors for a multi-discipline organisation in Norway for vacancies through to mid-1981. Applicants with proven writing experience in H/W systems and electronics are particularly sought, either permanent or freelance status available. In Italy, an excellent senior post is available for a technical publications practitioner, preferably with management and a computer background if possible. The U.K. market for Technical Authors is extremely buoyant and Modus can discuss the highest rates with experienced Authors well versed in computer hardware (to component level) or software (knowledge of operating software/languages).

Call Modus to discuss all opportunities in technical publications, whether or not you fit the above vacancies; salary levels will always reflect experience and location.

System Software Consultants

Mainframe (both IBM and UNIVAC) software development environment

Germany c £21,000 +

Two Consultancies who specialise in software development have requested Modus to recruit several people with in-depth knowledge of IBM VM operating software and/or multi channel interface systems. Also required are designers with experience of linkage loaders. These vacancies are in the neighbourhood of Munich. In Frankfurt there are positions for UNIVAC experienced design personnel with a very sound background in TIP and DMS 1100.

Applicants must be willing to remain in Germany for at least one year, and possibly longer. The successful candidates will be offered an excellent package and enjoy a first class working environment, coupled with the high standard of living enjoyed on the Continent.

Consultants: — Mike Creamer or Andy Wright

If the advertised positions do not match your experience or aspirations, Mike and Andy are always available for a confidential discussion of the possibilities. An informal meeting — often an essential part of the process — can be quickly arranged.

1372

MYRIAD

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A single minded and client oriented approach to recruitment has led to Myriad Appointments becoming one of the largest and most successful consultancies in its field. An impressive record of growth reflects this success in recruiting all categories of staff from programmers to senior management. An ever increasing number of managers throughout the Data Processing and Electronics industries are finding that our complete recruitment campaign package provides the most cost-effective means of successfully obtaining the staff they require.

Myriad Appointments Limited
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01-353 0981

Programmer

North East London Polytechnic Computer Centre - Barking Precinct
(2 posts) SO 1/2
Required to join a team of programmers working in three main areas: Academic Applications Systems and Management Information Systems. Applicants should possess a degree and be fluent in at least two programming languages (preferably one scientific and one business oriented language). The Centre operates ICL 19035 and Prime 560 computers with extensive on-line facilities. The experience of either of these machines would be an advantage.
The annual inclusive salary is on a scale from £7,026 to £8,112 according to age, qualifications and experience.
For further details and an application form please contact the Personnel Office, North East London Polytechnic, Asia House, Chadwell Heath, Romford, Essex RM6 6LX. Telephone 01-597 232, ext. 22 or 49, quoting reference number 427/80.
Closing date: November 10, 1980.

NELP

UNIVERSITY OF EDINBURGH DEPARTMENT OF CHEMISTRY

COMPUTING OFFICER

Applications are invited for the post of Departmental Computing Officer. Salary Scale 1A (£9605-£10565 p.a.).
The post involves provision of assistance and advice to staff and students in all aspects of computing. Development of real time applications using micro computer systems and liaison with the Department in the software aspects of on-line systems would be an advantage.
Applicants should possess an Honours Degree and have suitable postgraduate experience. Applications (three copies) together with the names of two referees should be sent not later than 12th December 1980 to the Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL. From whom further particulars may be obtained. Ref: CW220.

MICRO COMPUTER DEVELOPMENT

West Midlands
Negotiable £10,000 + Car

An exciting career opportunity has arisen within an established mini and micro computer turnkey organisation.

The role includes the development of hardware and software for micro systems from components supplied from a highly reputable and established source. The company has detailed and accurate plans for the future of this venture and will involve the successful candidate in the setting up and progress of the organisation.

You should offer a background in mini/micro computer technology, including in-depth knowledge of DEC based hardware and software. A good technical grounding in DEC operating systems, languages, device interfaces and peripherals is required. Knowledge of commercial, graphical and technical applications would be useful. It is expected that you would have relevant academic qualifications and probably be earning a package around £10,000 to be at the level required.

Any experience in liaison with manufacturers and customers would be very valuable.

This position offers the opportunity to be involved from the ground floor, and to set up and establish a small team of professional staff. Salary will not be a limiting factor for the right candidate and general conditions such as pensions, sickness benefit, two weeks holiday, BUPA, regular reviews and a company car are well above average.

For a strictly confidential discussion, please contact Mike Heslan. Ref. CW220.

COMPUTER PERSONNEL CONSULTANTS
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CPC

Sales Executives for CASE Communications Systems

CASE is expanding its sales force to meet the increasing demand for MSX, DCX and modem products. The CASE MSX is the U.K. Market Leader for message-switching — close to 100 customers — and with the recent addition of CASE DCX we offer unrivalled facilities for the communicating office of the future.

The DCX is, in effect, a circuit switched data exchange which leads the field in the Computer Communications market where CASE is challenging the number 1 position. CASE Modem products offer state-of-the-art facilities with integral Network Management.

If you are already a successful salesman at present earning in excess of £13,000 per annum we should like to hear from you. It is desirable but not essential that you have experience in our industry.

Please telephone Eileen Murphy, Personnel Manager, on Rickmansworth (09237) 76699 or write to her at

COMPUTER AND SYSTEMS ENGINEERING LTD.
Woodcock Hill Estate, Harfield Road,
Rickmansworth, Herts. WD3 1PL.

(3338)

UNIVERSITY OF BIRMINGHAM MICROPROCESSOR SYSTEMS LABORATORY

COMPUTER OFFICER

Applications are invited for the post of Computer Officer within the University's newly established Microprocessor Systems Laboratory. Preference will be given to applicants who are professionally qualified, have relevant experience and are familiar with the software and hardware of a range of microprocessor systems.

Salary will be on the scale £4,705-£6,006-£9,596 (under review), plus superannuation. Further particulars are available from Mr. R. W. Bushaway, Computer Centre, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom applications (three copies) including a full curriculum vitae and naming three referees should be sent by Friday, 14th November, 1980. Please quote reference BWX5.

(3338)

HAVE YOU A GOOD PUBLISHING IDEA?

Principal of Group of printing factories wishes to meet people with a viable new idea that involves printing on paper and would have good sales potential or a known market. Please write in first instance to Mr. E. Slew, Paternoster, The Street, Great Yarm, Colchester, Essex.

Hoggett Bowers

Executive Selection Consultants

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Data Processing Controller

Systems - Programming - Operating
North Manchester, c.£8,000

Installation of an ICL ME 28 computer system has created this opportunity with an autonomous subsidiary of an international company, manufacturing medium/heavy capital equipment. Reporting to the Data Processing Manager, you will be responsible for the transfer to in-house operation and the ongoing development of systems within the company. Relevant experience in a computer department with broad based skills in data preparation and control, programming, and general systems design are essential. You should also be conversant with the ICL 2903/4 range of equipment and COBOL as a basic programming language. Excellent career prospects are offered, and relocation expenses are available if required.

S.A. Llevens. Ref: 25247/CW. Male or female candidates should telephone in confidence for a Personal History Form to: MANCHESTER: 061-236 8881. Sun Life House, 3 Charlotte Street, M1 4HB.

(3377)

How the banks put a smile back on career officers' faces

BARCLAYS BANK has 1,000 people working in its development section and computer operations satellites.

The bank's management services department is responsible for the recruitment and control of all such staff. The department has its head office in Knutsford, with offices set in 35 acres of parkland. Knutsford is well served with motorways and rail services and Manchester Airport is nearby.

All trainee programmers, regardless of educational standards, join a five-week intake course held at the department's own training centre. During this period they are given a general appreciation of computers and learn Cobol. On completion of this course, they join a project group.

Programming and systems staff are based at Radbroke Hall, but staff may from time to time be required to work for short periods at various locations throughout the country.

Aptitude

The majority of recruitment is at the trainee computer programmer level and applicants must have, or expect to obtain, a minimum of four "O" levels, including Mathematics and English.

The candidates must demonstrate an aptitude for this type of work. Staff commence their training in the peripheral areas and instruction is carried out by our own staff either in the centres or in our training centre at Radbroke Hall.

All the accounting centres work a shift system but two of the centres operate 24 hours a day, seven days a week. When shift

working is undertaken a shift premium, in addition to basic salary, is payable.

It is possible for an entrant to reach senior operator level at a comparatively early age.

The bank does not normally recruit to this area above trainee level and the current salaries are from:

| | |
|------------------|--------|
| Trainee operator | £2,335 |
| Operator | £3,504 |
| Senior operator | £4,971 |

—a shift premium dependent on

Peripheral

The main recruitment requirement in operations is at the trainee operator level, candidates having or expecting to obtain a minimum of four "O" levels, including Mathematics and English.

The candidates must demonstrate an aptitude for this type of work. Staff commence their training in the peripheral areas and instruction is carried out by our own staff either in the centres or in our training centre at Radbroke Hall.

All the accounting centres work a shift system but two of the centres operate 24 hours a day, seven days a week. When shift

| Job | £ |
|------------------------------------|------------|
| Trainee programmer with "A" levels | = 3,736 |
| Trainee programmer with Degree | = 4,744 |
| Junior programmer | from 4,410 |
| Programmer | |
| Assistant systems analyst | from 5,857 |
| Assistant systems programmer | |
| Analyst programmer 1 | |
| Systems programmer 1 | from 6,841 |
| Analyst programmer 2 | |
| Systems programmer 2 | from 7,878 |
| Senior analyst programmer | from 8,351 |

Figure 1. Pay structure for programmers and analysts.

The rota system in operation is payable.

Information from the branches and other departments of the bank is collected around the clock and there is therefore a continuing re-

ALL the clearing banks use a large amount of computer power and have the kind of recruitment programmes to put the smile back on a career officer's face.

KEN COLEBROOK, personnel manager with Barclays Bank's management services department, outlines what his organisation has to offer the job hunter.

seven-day, 24 hour cover on a shift rota system, for which a shift premium is payable.

The responsibility for maintaining a library of tapes and discs lies with the librarian. While there is a low turnover of staff in this area, occasional recruitment is necessary and, in the main, candidates are trained by the department. Librarians earn from £4,700 per year and a shift premium is also payable.

In each centre we have an operational support group whose responsibilities are to liaise between users and their counterparts in other centres to ensure that any programs handed over from the development section are operationally acceptable and are correctly applied to the Master Program Suite. These teams are also responsible for the implementation of software changes and enhancements. Staff in this area are normally drawn from within the accounting centres.

Re-schedule

Vast quantities of paper and microfiche are delivered daily to the bank's branches and other users and the quality of print and the distribution of this output is controlled by mailing room supervisors.

In the case of any delays in pro-

duction, they are responsible for re-scheduling or re-rolling deliveries. Close liaison with clerical and user is essential.

As there is low staff turnover in this area, recruitment is infrequent.

Support

The work of the three operational support groups is coordinated by the central group based at Knutsford. They monitor hardware performance, forecast future equipment needs, discuss problem areas or equipment to be developing, recommend equipment purchases, etc. They also undertake capacity planning and the running of the bank's TSO facility available for program development.

Young staff who are required to leave the parental home to take a position with the bank may be qualified for an additional allowance.

There are many fringe benefits available to all full-time staff including a non-contributory pension scheme, profit sharing scheme, free banking facilities, subsidised restaurant and sports and social facilities and other benefits normally associated with working for a major bank.

'Professional is a perpetual student'

LITTLEWOODS was one of the pioneers in the commercial application of computers and since the installation of its first machine, an Elliott 405, in 1957, it has had more than 20 years' successful experience and become the largest Honeywell commercial user in Europe.

At present, Littlewoods has, with the exception of banking, the largest commercial data processing development programme in the UK. The management makes extensive use of data processing in solving its business problems and the hardware in current use is both large and modern.

Computer equipment valued at over £20 million is installed at two central sites at the Liverpool headquarters, and additionally, all the mail order offices and distribution centres are remote computer sites. More than 800 staff are engaged on development and maintenance at the central sites in Liverpool from which computer management and control are exercised.

High standards

Computers are at the heart of Littlewoods' business, and the company's profitable growth is closely linked to the successful development of computer applications. As the business expands, so do career opportunities in the group management services and group productivity services departments.

The organisation is constantly on the look-out for the right people to train for careers in data processing. Exceptionally

high standards are required from candidates, as the company invests a lot of formal and on-the-job training in these potential managers. This careful selection is justified, as fewer than 5% of 114 trainees for the GMS and GPS sections have left the company since September 1977.

From over 600 candidates who apply annually, about 30 succeed in becoming Littlewoods computer management trainees. This acceptance rate may sound daunting, but no arts or science graduate with serious career intentions should be deterred, as the company's requirements are broader than the uninitiated would expect. Special qualities are sought in addition to normal academic qualifications, and some of these requirements may surprise graduates who have not considered management services as a career.

Mail order

These qualities relate closely to the needs of the mail order and chain store operations. A commercial organisation such as Littlewoods is not committed to computers for the sake of the technology, but for the business, and the technology must be designed and operated to serve the interests of the business.

It is therefore essential for DP managers to understand the aims, functions and problems of the organisation and to be able to communicate with all sorts of people within the business. It is essential that they should be able to identify and com-

municate with users in the non-computer areas of the organisation. A user may be director, buyer, marketing executive, stock controller, personnel officer, or any other manager in the company. A user is always a business person, seldom a scientist.

Successful candidates may be recruited from any academic discipline. Of 31 candidates who commenced training in September 1979, only eight were graduates in computer science or mathematics; the remainder had degrees in disciplines ranging from classics to zoology, mediaeval history to psychology.

by Don Hazel

The first and most important quality the organisation looks for is aptitude, which is assessed by a number of tests. Applicants who pass these tests must then show that they have a sense of commitment to a long-term career: there is plenty of scope for movement and flexibility within DP as systems and applications are so varied, but opportunities of moving into it from another profession are very limited, and similarly it is unusual for a trained computer professional to switch to another type of job.

A third important requirement is the ability to get on well with other people and be happy to work as part of a team, as all DP work, whether in systems

development or special projects, is based on team effort. Ideally, team members should have the capacity to make the user, for whose benefit the system or project is designed, feel that he or she is part of the team too.

Articulate

Analyst potential is another prime quality sought by the organisation. Though the term defines precise definition, it combines a logical and analytical approach to problems with a pleasant and outgoing personality.

Computer managers must

often become involved in the delicate task of persuading other managers, who may have been successful and expert in their own sphere for many years, to make drastic changes in the ways in which they carry out their work. Those managers must be persuaded to adapt to and actively support the new systems. To achieve this end, the computer managers must be very articulate, confident and convincing in their communications with other managers in the organisation.

"To be a computer professional implies that one is a perpetual student." This view epitomises the company's policy towards staff computer training.

Outside the banks, Littlewoods has the largest computer installation in the UK with hardware worth £20 million. Don Hazel, management services manpower manager of the group, looks at how his firm recruits people into the DP division with a view to giving them a career for life. He also examines some of his firm's management philosophies — and concludes that one is always learning something in DP.

Formal training of successful applicants takes place in Littlewoods' own training centre, set up in 1977. Its main purpose is to fill the inevitable void between university or college learning on one hand, and the specific requirements of Honeywell technology and Littlewoods' system and applications on the other.

Applicants finally selected as DP trainees begin with an 18-week basic course, which aims to prepare them to function effectively as a member of Littlewoods' management services. The main feature of the formal training course is the teaching of modern DP and programming skills. A general DP education is given as well, to equip trainees with sufficient knowledge to understand broader concepts and the DP role of management services in the company.

On the job

At the end of the formal training course trainees are assigned to specific DP areas of the management services department to gain work experience. This on-the-job training continues until the anniversary of the date of joining the DP course. Subject to satisfactory progress, the trainees are then appointed to positions on the company staff.

Applicants for the trainee business analyst course are usually older than those for the DP course and they often have some previous business experience.

The trainee business course is designed to provide initial training and development of staff whose long-term objective is to become a business analyst in the business services area of Littlewoods' group management services.

After two years in group management, opportunities for career advancement are excellent. It is company policy to recruit for senior positions from within the organisation, and to adopt a generous attitude to training.

The management services and productivity services functions are the responsibility of an executive director who reports to the managing director. The executive director's main areas of responsibility are as follows:

Group productivity services. Includes organisation and methods and industrial mechanisation.

Group management services. Is further subdivided:

1. Group systems development. Responsible for the development and maintenance of business and computer systems for the organisation.

2. Group computer operations. Responsible for operating the computing equipment and running the production system of the major computer installation at head office and smaller installations sited at the various offices and distribution centres throughout the country.

3. Group computer security. Responsible for the integrity and security of all computer-based systems.

Computer people — think ahead to 1981

Modular Computer Services is a world leader in the supply of computer systems to the industrial process control and communications marketplaces. In the last two years we have successfully established a manufacturing plant at our European H.Q. in Wokingham, doubled our installed client base in Europe and substantially increased our staff in all Departments. Our plans for 1981 are for continued growth and to achieve this we will need the following key personnel.

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Having shed a quill pen and rolltop desk image, the insurance companies are now firmly aboard the computer bandwagon. BARRY FOTHERGILL, computer services manager with the Guardian Royal Exchange, reviews the changes and assesses the recruitment patterns which have been created.

Insurance firms climb aboard the DP bandwagon



Barry Fothergill

DURING the last quarter century, the insurance industry has become one of the foremost commercial users of computer technology.

The transition from automated accounting and addressing equipment in the late Fifties and early Sixties to a computerised environment led to the need for systems analysts and computer programmers. In the early days such staff, in the main, were selected from insurance personnel by aptitude test, and initial training was provided by the computer manufacturers and by programmed instruction text.

The rapid technological advances in both hardware and software during the Sixties and early Seventies led to major expansions of computerised systems necessitating a significant increase in experienced DP staff.

Attractions

Insurance companies embarked upon intensive recruitment campaigns. As employers, they offered many attractions: sound companies of repute, many of whom were household names; subsidised mortgages; pension funds; staff insurance schemes.

However, in the late Sixties, experienced programmers and analysts were riding the crest of a wave. Jobs were plentiful and security of employment and fringe benefits held less attraction than now.

Throughout the data processing industry, staff were on the move, increasing their salary with each change of employer. Systems houses flourished and many people were attracted by the variety of work and installations available through such employment.

Insurance companies, like most companies, were obliged to employ contract staff or to get projects out to bureaux in order to meet their expanding development.

Suddenly, and with little warning, the bubble burst and in 1971 it became an employer's market. Many established installations reaped the benefit, with a wide choice of experienced applicants for most of the positions advertised.

Birth

There is little doubt that the completion of conversion to decimalisation had a marked effect on recruitment at that time. The short term need for staff to carry out such conversion was over and the demand for contract staff decreased considerably. In seeking secure employment, many experienced analysts and programmers joined insurance installations.

This period saw the birth of the development of large systems in the insurance industry, when new technologies began to give rise to database applications and teleprocessing systems, desirable alternatives to the former paper-dependent environment of insurance. Many DP professionals recognised the growth potential and opportunities offered by the

new computing technologies which applied to insurance.

It was to be two or three years before the DP industry at large again experienced a significant mobility of staff occasioned by the pay freeze policies of the mid-Seventies. Even job security seemed to take second place to a significant salary increase available on a move to a new employer.

It was about this time that one began to see young people positively seeking their future in data processing and gearing their academic studies accordingly.

Training

In my own company, we were quick to recognise the opportunities this new resource offered and we established and developed our own in-house DP training facilities to meet the need for initial and ongoing education and training.

It has been our practice, since the early Seventies, to employ as trainee computer programmers,



groups of academically qualified and aptitude tested young people, some from other departments within the company and others from school or university.

Over recent years, a number of companies have adopted a policy of recruitment at the trainee level and, of late, there has been a tendency not to differentiate between trainee operators, programmers and analysts, but rather to have data processing trainees moving through the various initial disciplines of data control, operating and scheduling, before transferring into programming and analysis, depending upon the aptitude and ability of the individual.

Our current philosophy recognises the continuing need to recruit staff in each discipline, but with the growing sophistication of both hardware and software, the job content of each role must, of necessity, change.

Comfortable

Recruitment is very much a two-way exercise and it is important to let the prospective employee know as much as possible about the company and the insurance environment during the short time available at the interview.

how good a data processor individual may be, it is equally feels comfortable within the company's standard approach; otherwise dissatisfaction will arise on both sides.

The promotional and training methods of review and appraisal subjects have all to be explained in detail and also the company views on issues such as dress, timekeeping should be explained; avoid possible future misunderstandings.

None of this should be unique to the insurance environment, but a discipline where so many separate standards obtain, it is essential that the employer's policies are clearly understood from the outset.

In an industry such as insurance, with highly motivated non-DP staff such as actuaries, statisticians, coupled with the provision of personal computer facilities, user departments come to rely less on application analysts and programmers for development and enhancement projects. Similarly, new operating systems and new technology influence the role of the operator in the future.

Insurance companies have an obligation to ensure that both new and existing DP staff have a wide and worthwhile future within the industry. There must be opportunities for staff to transfer to user environments where their particular talents can be put to good use in the forecast application of end-user computing.

High calibre

However, let us not forget those areas of data processing in which there will be a continuing need for a long time to come: information and security control, database administration and technical help facilities can only be provided satisfactorily by experienced DP professionals, whose major part of distributed processing systems will continue to require central development and implementation.

I have tried to review the past and give consideration to the future in terms of our recruitment needs and obligations. But what of the present? Earlier this year, the own company advertisement nationally for experienced analysts and programmers. We were fortunate in that the prospective candidates were, in the main, of high calibre. It was clear from our interviews that they were well 'fashioned' virtues of a job, a policy of employment and career potential. Very few of the applicants had an insurance orientation and yet they were well grounded and yet they were aware of the opportunities and development such an environment offered.

Insurance appears to have shed its dusty image. We are a significant sector of the commercial world, with much to offer the prospective employee in both short and long term. Let us expose these benefits to their full capacity.

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Lack of staff is slowing adoption of technology

ALTHOUGH the country is faced with alarming unemployment, there is still a great demand for computer staff in most parts of the country, in particular in the systems and programming fields. This shortage is a factor in the relatively slow adoption of technology in the UK.

Further automation and the adoption of technology is supported by the Trades Union Congress and most of the trades union movement because the alternative is economic disaster.

If the UK is to compete with other industrialised nations, then the government must tackle the obstacles facing the implementation and adoption of technology. One of the obstacles is the problem relating to the shortage of the supply of labour to the computer industry and the government must initially accept the recommendations of the recent reports and start making a number of decisions which will improve the supply of labour in this field.

Must sign

The government must also sign technology agreements with the Civil Service unions and similarly encourage private employers to sign such agreements with their unions; this would assist in increasing the supply of labour which is in great demand and also make it easier to attract school and university leavers to the computer industry.

A number of reports have dealt with this shortage of manpower and, in 1977, the manpower sub-committee of the National Economic Development Office's Computer Sector Working Party was established.

Its terms of reference were to identify trends in employment in the computer industry, to study the question of planning its future manpower needs and to make appropriate recommendations to government and other bodies to promote a better balance of supply and demand for skilled manpower in the industry in the future.

After much work and the issuing of an interim report, the final report was published in June 1980 and a number of recommendations were made.

Support

The sub-committee's recommendations to the government called for more effective support of the recent programme for initial and real time programming; existing TOPS and Threshold programmes to be boosted; extension of the existing role of the Engineering Industry Training Board to provide a more effective national focus of responsibility for training in computer skills; further research into appropriate forms of aptitude testing; the educational system to be encouraged to introduce knowledge of computers at the formative ages; expenditure on engineering and systems disciplines to be increased.

It is worth quoting the last recommendation to government in full because our future depends upon the support given to it by government: "In developing its information technology, the support of the supplying sectors and, in key applications, the government should pay particular attention to the need to optimise the use of scarce computer skilled manpower resources for the benefit of the country's economy."

Agreements

The recommendations to trades unions and employers include a call for the speedy conclusion of technology agreements; that every

opportunity should be taken to improve programmer productivity; that qualification overkill should be avoided; that there should be a greater commitment to training and retraining; that career structures should be examined to assure that labour can be attracted and retained; and that better links should be established with the education system.

My union — The Banking Insurance and Finance Union — would generally welcome the above recommendations, in particular those aimed at unions and employers. BIFU supports technology agreements and is in the process of drawing up agreements to submit to employers in banking, insurance and finance.

Unfortunately, one of the clearing banks has already indicated its refusal to sign such an agreement although they have not as yet had sight of any draft. BIFU has also called upon the employers to negotiate with us to accept these recommendations.

Terry Molloy is assistant secretary of the Banking, Insurance and Finance Union (BIFU). This article contains BIFU's reactions to recent reports from the Advisory Council for Applied Research and Development and the Manpower Sub-Committee on Technology.

There is a need in the finance field to improve programmer productivity, to avoid qualification overkill, to improve training and retraining, to improve movements of staff between clerical and computer areas and to improve career structures. BIFU has approached a number of employers to recognise certain computer qualifications by granting day release and rewards for qualifications obtained in this field.

Rejected

The employers have rejected the union's claim, although they grant day release and financial rewards for staff passing Institute of Bankers examinations. The union is continuing to press this claim and is also raising the matter in committees elsewhere. What concerns the union most is that employers in banking, insurance and finance — as well as employers generally in the computer industry — do not recognise computer qualifications as, for example, banks recognise the Institute of Bankers.

Day release for any computer study course is almost unknown. This is one of the problems not just facing the union; it is a problem to be faced nationally if this country is to compete in the modern economic world.

In another report on information technology, published in September 1980 by the Advisory Council for Applied Research and Development (Acad), concern was again voiced over the difficulties of labour supply to the computer industry.

The terms of reference were: "To consider whether the development and application of information technology in the United Kingdom should be stimulated; to consider whether there are constraints to the development of the industries in the United Kingdom which supply and apply information technology equipment, software and systems, compared to our major competitors; so make recommendations." Among the Acad recommendations

were that a Minister of government department should be responsible for the co-ordination of government policies and on the promotion and development of information technology through, among other things, education and training; that "careers services at school level and higher should review the guidance to students about opportunities in information technology, in a range of disciplines; that government, its agencies, educational bodies at all levels, should examine the provision of education and training courses in relation to information technology and propose measures to increase an increase of training in the field; that the manpower sub-committee report, my union generally accept the recommendations of Acad, in particular three listed above, which attempts to stimulate the manpower to the computer industry.

Technology will provide us with a challenge second to none; will be a challenge to the government, employers and trade unions and one which will have to be met together, or we will pay the cost for generations.

Recognise

Many things need to be done but the first step is to recognise the importance of microcomputers and the need to train and educate our youngsters so that we have the skill and knowledge needed to enter into the 1990s.

The Commission of the European Communities has been concerned over the competition faced by Europe from Japan and the USA.

"The present industrial revolution leaves much to be desired. Europe's intellectual contribution to the new technology is not remarkable, but in the computer and industrial field, it is in Japan that lead."

European owned computer firms have 16% of the world market compared to 73% for the USA.

Challenges

"In software and telecommunications, the European position is far stronger than in hardware. But the European electronics industry faces a competitive challenge from the USA and Japan; while in the crucial electronic component sector, Europe imports over 90% of its integrated circuits which are adaptable and powerful blocks of the electronic age."

Trades union organisations in Europe are as concerned over the competitive position of Europe as the trades unions in the UK; they also accept that full advantage of the ability to take full advantage of new technologies is mainly realised in people. This knowledge and ability can only be obtained through education, training and retraining.



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The growth of computerisation in building societies has led to recruitment and training problems. ALAN CHAPPEL, manager of computer operations at the Abbey National Building Society, defines the difficulties and offers some solutions.

Over 40 building societies have own DP systems

THE impact of computer technology on the building society movement has been no less impressive than in other areas. The 1979 Register of Building Society Computers, published by the Building Societies Association, lists over 40 societies which possess their own computer equipment to which must be added a number of others who use bureaux facilities.

The very nature of a building society's business, with large numbers of customer accounts and high volume transactions, makes it a prime candidate for computerisation. It follows, therefore, that most of the listed societies possessing their own mainframe equipment will almost certainly be involved, at some time or another, in the recruitment of data processing staff. I have no doubt that this statement may prove disagreeable in some quarters and that some may claim that they have always funded their DP function by internal recruitment and retraining. Within one society the DP manager claims that recruiting on the open market would be an admission of failure. While impressive, if true, I have considerable doubts about the actual practicality of such a policy.

Development

The Abbey National Building Society has the largest branch network in the UK. Each of its 600 branches is linked via a telecommunications network to the main computer centre in NW London which houses a Sperry Univac 1100/82 system.

The total data processing workforce at Abbey National numbers just over 100, covering systems, operations and telecommunications. While this may appear a substantial figure, I should point out that it represents little more than 1% of the society's total workforce. As manager of computer operations my primary concern is naturally with computer operators, operations specialists, production control, librarians, etc., but as a Fellow of the Building Societies Institute, with 16 years' experience and 10 of these in data processing, I feel reasonably well qualified to discuss the broader issue of data processing staff recruitment in the building society environment.

Abbey National's intention is that members of staff should be given every opportunity to develop their knowledge and skills and enhance their career. To this end, considerable effort is put into personal development and training while at the same time all vacancies are advertised internally.

It is a policy I wholeheartedly support and one which has enabled cross-fertilisation between data processing and other areas of the society, thus helping to break down the antipathy that can exist towards data processing in any organisation where prime function is not computer related.

Balance

The problem that arises for any data processing manager in this situation is that of maintaining a balance between experienced and trainee staff. Failure to do so, particularly in the face of increasing demands from users and increasing complexity of systems, can

der design or in operation, can lead down the road to disaster.

I am sure we would all like to claim that our "corporate staffing strategy" or "long term staff development philosophy" ensures that we are never in this situation. Unfortunately, real life is seldom like that, particularly in a building society where the percentage of data processing staff is likely to be small in relation to overall staffing levels. Although some critics would have it otherwise, building societies in general do pay close attention to their budgets.

Few managers, data processing or otherwise, can afford the luxury of a reservoir of trainees from which they can subsequently fill the gaps left by the departure of experienced staff, or fulfill urgent and unexpected demands from users.

Inevitably, one finds oneself having to go to the market in an attempt to attract experienced staff. This in itself presents a problem: does one overtly, use agencies or both? I have heard arguments for each side and must confess that I have not formed any strong views either way.

In general, Abbey National would select the former since it does provide wider coverage and a better catch, from which hopefully the right selection can be made. However, particularly where only one vacancy exists, this can be extremely expensive, because of the cost of space and the less tangible, but no less real, costs of following up applicants and conducting selection processes. On the other hand, an agency introduction fee can be high in return for which one is often faced with Hobson's Choice, there being only one likely candidate.

Selection

A useful (and free) source that the society has found extremely worthwhile are the Manpower Services Commission (TOPS) retraining courses. There are four operators on my staff who have been recruited from this source and while they could obviously not be called experienced, they have undergone a comprehensive basic training programme lasting from 12 to 18 weeks. This reduces the onus on the employer and enables the operators to pay their way more rapidly.

Selection processes must be considered very carefully by any manager. Interviews, although essential, are inadequate on their own and in my company a great deal of effort has been made in recent years to improve selection techniques. For example, an applicant for an operator vacancy would go through four separate stages.

Firstly, a preliminary interview with the personnel representative assigned to the data processing area; secondly, a specially selected operator aptitude test consisting of written exercises with strict time limits; thirdly, an informal walk round the computer suite with an experienced operations representative; and fourthly, comes the interview.

The third stage is most important when dealing with reputedly experienced operators. Placed in a familiar environment with a companion to whom he can relate, the applicant is relaxed and encouraged to talk, enabling his true knowledge of the equipment and

the interview can then be directed towards more specific matters aimed at probing the applicant's character and outlook. Above all, honesty on the part of the interviewer is essential at this stage. The applicant must understand that the job involves working for a building society that has data processing function and in the other way round. Many applicants for positions in computer operations have given broken or unfulfilled promises as their reason for wanting to leave their current employment.

Interests

The positive aspects of employment with the society should be stressed without creating false impressions. The operators' interests can be broadened by involving them in work outside their normal operating duties. It has proved successful in my company in an area in particular, this being the preparation of lesson notes for a computer assisted learning package marketed by Sperry Univac. A team of operators has worked on this project for the last year, and in their own time, and a number of valuable lessons have been produced.

I have mentioned before the proportion of data processing staff in a society's total workforce seems sensible to make this point to the applicant when discussing longer term career prospects. Given that over 98% of the society's staff do not work in the data processing area, that the average age in data processing is about early to mid-thirties and that due to the attractive conditions of employment, staff turnover is low, it follows that the ambitious individual may fairly rapidly become demotivated. It is worth discussing whether the applicant's long-term ambitions lie in data processing or whether he or she has contemplated a building society career.

Dilemma

The positive aspects of this alternative should be emphasized. I have to lose a talented and valuable member of my staff at some time in the future, I would rather he or she was lost to another area within the organisation than lost to the organisation altogether.

Building societies are, like most other organisations, faced with an interesting dilemma. There is a plentiful supply of well-trained applicants anxious to get started on a data processing career while experienced applicants are in short supply. However, if no one is prepared to take on the mantle, how will the shortfall in experienced staff be made up?

The overall breadth of ability among data processing staff is becoming increasingly important. For years they have been able to shelter behind the mystique of their trade, their position protected by the ignorance and exploitation of the users and general management.

It is a short-sighted data processing manager who thinks this situation will persist. The computer revolution is reaching into all areas and the user is learning to ask the right questions. Data processing staff must react to this situation, widen their knowledge of the organisation's overall business and be prepared to cross boundaries if they are to maintain their reputa-

Is technology changing computer jobs?

THE question is often put to me "Are you training people for redundancy?"

There are at least two possible answers, both equally valid. The first is to note that the forecasts of redundant programmers date from the development of the first high-level programming language some 25 years ago. What those prophets failed to realise is that there is much more to programming than coding, and that computer users would become so heavily committed to a language, by their investment in applications software, that they would need programmers skilled in that language for maintenance purposes long after the end of that language's life for new development work.

My own estimate is that, if Cobol were to be superseded today by a vastly superior language, Cobol programmers would still be needed for at least another 15 years.

The second answer is a recognition that all training is of obsolescence. This does not necessarily imply an acceptance of the view that we shall all eventually be put out of work by the



computer. However, even if it did, one could surely rely on jobs with computers to be among the last to go.

Naive

The two developments which are currently suggested as heralding the demise of programming are user enquiry languages and firmware. Both these suggestions are, in my view, as naive as the earlier prediction for Cobol.

An easy to use enquiry language is necessarily restricted to a small range of commands, each of which needs at least one stage of expansion before it becomes an instruction that the computer can obey; in other words the greater the simplicity to the user, the more sophistication in the software.

As for the firmware notion, it is at least conceivable that any software package which runs without modification on most of the models in a range, and for most users of that range, could be economically converted to firmware. If we consider what a small proportion of applications, on any but the cheapest machines, consist of even modified packages, and this in spite of the ever-increasing cost and shortage of skilled programmers — this prognostication begins to look like no more than a tiny puff of smoke on the horizon.

Expanding

How is technology changing computing jobs? For sophisticated real time systems, such as those used by the police and military, there is a rapidly expanding requirement for programmers able to use the real time languages such

as Coral or RTL2.

For the small user, there is the stand-alone micro with packaged software. This means an increased need for systems programmers in the supplier sector, although this is likely to have little effect on the general demand for or job content of the majority of user DP staff. Several DP managers have suggested to me that the development of interactive systems needs programmers who are more attuned to the user's way of thinking. This is to say that programmers should become more like analysts and give a new twist to the continuing debate on whether it is better to have an analyst/designer and a programmer, whether to combine the functions, or whether to split them further into analysis, design and programming.

Versatile

In the small to medium sized installation, there may be no choice; it is hardly likely to be acceptable, from the aspect of either economics or job satisfaction, for the work to be fragmented between three people.

It follows that the small installation — unless it is working entirely with packages, or sub-contracting its programming to a software house — needs a more versatile person and must therefore expect to pay more for the scarce resource. Analyst, design and programming each comprise multiple specialised tasks and related skills and knowledge.

There is no reason, in principle, why one person should not acquire all of these, just as there is no reason why a statistician should not be also an ornithologist, or a chess player also a golfer; but now enters the question, not just of abilities, but also of interest.

A current joint NCC study with Sheffield Polytechnic and Hatfield Polytechnic, on vocational interest has shown that while practising programmers and practising analysts tend to have many interests in common, they diverge sharply on the question of people-related and thing-related activities. The programmers clearly prefer the predictability of the machine, while the analysts respond better to the infinite variability of the human psyche.

Annoyance

Now, according to the DP managers I mentioned above, the programmer should be capable of developing effective man-machine dialogue on the VDU.

One has only to look for an answer at the forms to be filled up every day, from government departments and other sources, which have been designed by supposed experts in obtaining information from people. Such forms will usually have gone through a pilot phase and then been modified, but still they cause puzzlement, irritation and downright annoyance.

Asking a machine-oriented person — a good programmer — to tackle such subtle and complex problems of human communication is on the same level as leaving form design (as so often happens, alas) to the typist.

Fortunately for the user — and that means industry and commerce in general — I see some strong signs of the opposite tendency. DP managers are increasingly recognising that communicating with users and interpreting their information requirements is a no less complex and specialised task than converting those requirements into machine-related form, and so are

All would agree that computer technology has had a profound impact on the job market as a whole. GEORGE PENNEY, careers projects manager at the National Computing Centre in Manchester, looks at the argument from a different perspective. He examines the effect that technological changes are having on the computer job market.

Says George Penney: "For someone entering DP, or already working in it, I would suggest that there is a need to make a personal assessment of preference for thing-related or people-related activities. Equally, it is for the employer to analyse jobs into the two different tendencies".

In the meantime, these are some of the many high-status jobs to which DP staff can work their way up, so, perhaps, hastening the demise of the conventional operator-programmer-systems analyst-DP manager route.

For someone entering DP, or already working in it, I would suggest that there is a need to make a personal assessment of preference for thing-related or people-related activities.

Fortunately the one or the other tendency, mechanical orientation or people orientation, can be assessed adequately by a skilled interviewer.

Technology changes; people do not. Technology is important, but people come first.



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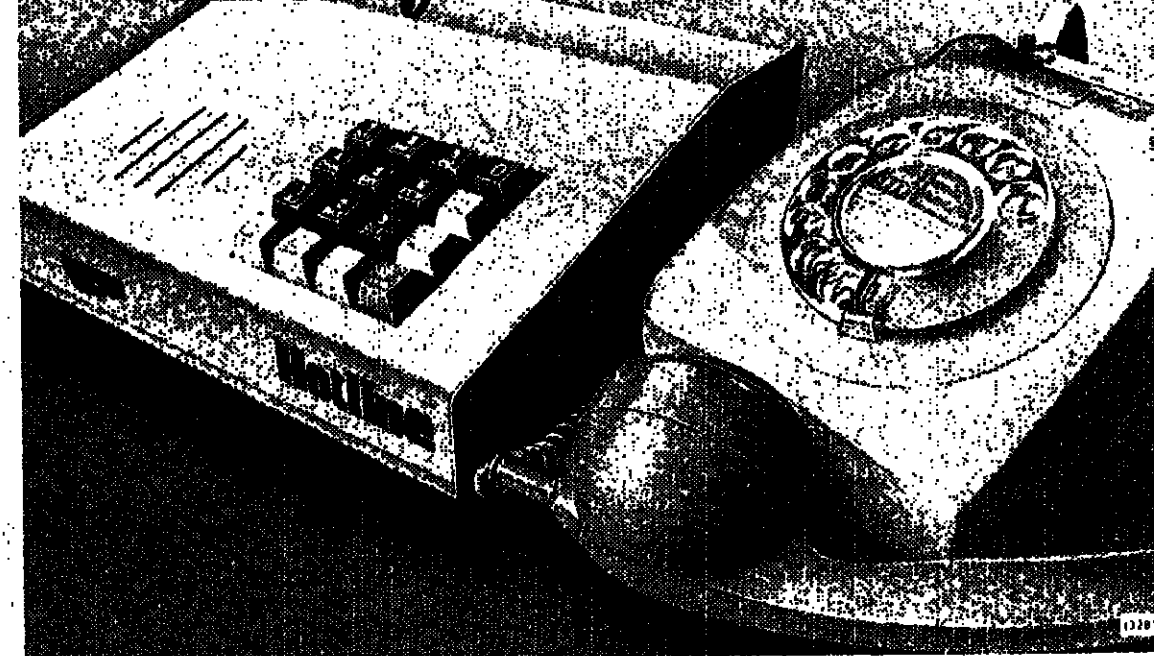
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The Manpower Services Commission provides support for basic training in a number of computer skills. A recent working party concluded that

the demand for computer expertise outstrips its supply and this article shows how the MSC is attempting to match the shortfall.

MSC's bid to train more computer staff

THE Manpower Services Commission (MSC) is making substantial funds available in 1980/81 to help industry to provide more basic training in computer skills. It is the second year of a three-year programme which offers more support than the MSC has given before for training in these skills.

The programme has been given high priority under the MSC's training for skills policy and exempted from the expenditure cuts which have affected other MSC operations.

The computer occupations training programme is designed to encourage employers to train more employees by offering grants for staff trained on specific courses in programming, real time programming and systems analysis.

Increase the number of opportunities under the Threshold scheme for unemployed young people without specific academic qualifications; and

Increase the number of opportunities under the Training Opportunities Scheme for training unemployed people aged 19 and over in basic computer skills.

The programme was developed in 1979 following recommenda-

tions of an MSC working party set up to devise training arrangements for computer skilled manpower. A working party study showed that training output in these skills was no greater than 8 per cent of stock, that stock itself was 7 per cent to 15 per cent below the desired complement, that turnover varied from 9 per cent to 30 per cent among different sectors of industry and that future growth was expected at rates varying between 11 per cent and 25 per cent.

Clearly, training was neither sufficient to meet current needs nor making any contribution towards future growth.

A system of grant support for training and a group of suitable courses were developed within the MSC's training for skills action programme. Under this programme, all sectors of industry and commerce are encouraged to identify training needs and take action to meet them.

Assistance, including financial assistance, is available from the MSC, in particular for training in skills which are used in more than one sector of industry and are in short supply; computer skills are certainly cross-sector and scarce.

At the same time, the MSC in-

creased the number of places available to unemployed young people and adults for training in computer occupations.

Earlier this year the manpower sub-committee of the Electronic Computers Sector Working Party, reported current shortages in most occupations among computer manufacturers, computer users, and computer services.

The shortfall of programmers and analysts was put at some 17,500. Growth was anticipated in all the sectors over the five years to 1985 and increased training was recommended.

The MSC's programme was therefore clearly in line with the needs of the labour market. As part of its normal monitoring of a training programme the MSC will keep this situation under review.

Success

The element of grant-supported training in the MSC's programme was only in part successful in the first year: fewer than a third (330) of the grants available were taken up.

However, a number of changes were made.

In particular, it was clear that



Miss Denton, bring me the file marked "Computer courses/holiday brochures."

not enough employers were attracted to the 42 week initial programming course, based on the Threshold course which the National Computing Centre operates under the MSC's direction for unemployed young people.

It was generally thought to be too long, and although it is being retained, two shorter courses in programming have been introduced, for which a greater number of grants are available.

The courses for which grant support is offered to employers in 1980-81 are:

IP42 - this course in basic programming for new entrants lasts for 42 weeks, of which 18 weeks, in two 9-week blocks, are spent in a further education, college or

polytechnic. The balance of 24 weeks is spent with the sponsoring employer on planned practical and project work. This course is particularly appropriate for the school-leaver, and grant support is £11,500 per trainee. Those who reach a satisfactory standard at the end of the course are awarded the National Certificate of the Business Education Council (BEC - TEC), or its equivalent in Scotland.

IP12 - this is a short course in basic programming. It normally lasts 12 to 18 weeks, following broadly the syllabus of the joint NCC/City and Guilds of London Institute No. 746 Basic Certificate in Computer Programming. Course providers may be able to

teach an additional language; equipped, hence the varying duration of the course. The course is available at selected colleges, schools, colleges of further education and company in-house training centres. Grant support is £60 per trainee week in respect of trainees who are additional to employer's normal annual throughput of trainee programmers, assessed over the previous two or three years.

SA10 - this systems analysis course, normally 10 weeks long, was developed in response to evidence that many people with varying business experience but little or no previous data processing experience could, after suitable training, become a valuable addition to the supply of trained systems analysts.

● Turn to page 21

Employers need to give on-the-job experience

● From page 20

to provide the planned in-house experience necessary to complete the full BEC/TEC syllabus. The course may be put on by commercial computer training schools and company in-house training centres as well as by colleges of further education.

It is suitable for the new young entrant to DP, since it sets out to provide a wider appreciation of data processing as well as programming techniques. Grant support is £60 per trainee week in respect of trainees who are additional to their employer's normal annual throughput of trainee programmers, assessed over the previous two or three years.

ing practical project work, and a further period of instruction in college.

The scheme has been successful from its inception and placing results are good: 90 per cent of trainees are placed in computer occupations, often with the employers who offered places for the "industrial" attachment periods of the course.

The number of Threshold places was substantially increased in 1979 as part of the MSC's expanded programme of training in the light of its working party report: 1,000 places were funded in 1979-80, and this was further increased to 1,200, to maintain the target of trainees in spite of the low take up of places under the grant-support scheme. This year, the target is 1,400.

One of the important features of Threshold has been the demonstration that high academic ability is not an essential qualification for computer programming.

Training in computer related occupations has been offered to unemployed adults under the MSC's Training Opportunities Scheme (TOPS) for several years, and numbers trained have been increasing all the time.

Grants

Provision covers the main occupations most widely found in computing, viz computer maintenance engineering, systems analysis, programming, operating, data preparation and data entry.

TOPS pays course fees, living allowances, accommodation and daily travelling allowances. Grants are made towards the cost of essential books and equipment. Trainees must be aged 19 or over and have been out of full-time education for at least two years.

About 80 per cent of the training is carried out in private sector establishments and the rest in CFEs. Courses are very successful with high placing rates. Analysis of follow-up enquiries about the 1978-79 trainees (three months after the end of training) shows that between 80 per cent and 89 per cent of trainees in analysis, programming and engineering were in employment and using the skills taught.

Commissioned

In the current year (TOPS operates on financial years and not training/academic years) the target for completion in training for computer-related occupations is 4,000. This compares with some 3,200 completions in 1979-80 and 2,000 in 1978-79.

The MSC has commissioned a survey designed to establish employers' recruitment practices and pre-entry training requirements so that decisions can be made about the structure of future courses. What-ever the outcome, it should be emphasised that all MSC-supported training for computer skills is and will be at a fairly basic level.

Because of the rapid growth of computer applications, the labour market simply has not got as many experienced people as employers want or would like.

There is no way to create such staff other than by giving basic training followed by working experience. The MSC is doing a great deal to help provide the former: only employers can provide the latter.

The MSC sees as essential the development of more employment-based training and hopes that the incentives it is giving to this within its joint programme will encourage employers in that direction.

Shortage

Real Time Programming - a course of up to 24 weeks' duration has been designed to help to meet the growing shortage of real-time programmers. No formal training at this level has been generally available hitherto. The course is available at a limited number of CFEs and polytechnics and in certain company in-house training centres. Grant support is £70 per trainee week.

SA10 - this systems analysis course, normally 10 weeks long, was developed in response to evidence that many people with varying business experience but little or no previous data processing experience could, after suitable training, become a valuable addition to the supply of trained systems analysts.

A four-week introductory module prepares trainees for the six-week training of the NCC's well-established course in systems analysis. Training is to the standard of the Systems Analysis Examination Board of the British Computer Society, grant support is £80 per trainee week and courses are available at some CFEs, polytechnics, commercial computer training schools and in-house training centres.

SA6 - the NCC's six-week systems analysis course referred to above may also attract grant support at the same rate (£80 per trainee week) in respect of trainees who are additional to their employer's normal annual throughput of trainee systems analysts, assessed over the previous two or three years. Courses are available at some CFEs, polytechnics, commercial computer training schools and in-house training centres.

Recruited

In all cases, trainees may have been recruited externally by the employer, or from among staff already employed by him.

The scheme is administered by industrial training boards and, in industries and services not covered by these boards, by the National Computing Centre acting as agent for the MSC or by the MSC directly.

The NCC also operates a "clearing-house" for the scheme, to bring together providers of courses and unsatisfied demand for places. The Threshold Scheme for unemployed youngsters was introduced in 1976 with 200 awards rising to 550 by 1978. Awards include payment of college fees and a weekly allowance (now £26) to the trainee.

After a common core at a college, trainees are selected for either operator training or programmer training during the rest of the course; this consists of two periods of "industrial" attachment, involv-

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mid-October this equated to around £18,000. The initial contract period is two years with an option, if mutually agreeable, to join the permanent staff thereafter. Short-list interviews will take place in London in late November/early December and the successful candidate will be expected to start work in Hong Kong at the beginning of February 1981.

Ref: TE517/485/CW. Consultants: No details are divulged to clients without prior permission. Please send brief career details or write for an application form, quoting the reference number on both your letter and envelope, and advise us if you have recently made any other applications to PA Personnel Services.

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INTERESTED IN:

Science graduates are still the favourite with most employers

Let us begin by trying to get some idea of the size of the computer job market for graduates.

No separate statistics are published for the number of graduates who start computer work but I was able to obtain, by courtesy of the Universities' Statistical Record, a detailed breakdown of the university graduates who entered the three main types of computing work in 1977-8, the latest year available. Table 1 lists the "top ten" subjects, excluding combined degrees, for first and higher degree graduates of both sexes. Computer studies as a degree subject is included under mathematics in the statistics. There were 523 graduates in 1977-8.

First job

The 1,922 graduates who obtained computer jobs represent 74% of the 2,603 graduates listed under the Management Services classification in the section headed First Destination of University Graduates 1977-8. Applying the same percentage to the 369 polytechnic graduates listed under this classification in Polytechnic First Degree and Higher Diploma Students 1978 gives a figure of 273.

The total number of graduates who obtained computer jobs in 1978 is therefore about 2,200. Demand has been rising at about 20-25% per annum in recent

years and many employers say they are unable to fill all their vacancies.

I would therefore estimate that there are probably 3,000-3,500 graduate vacancies in computer work in 1980. To put this in perspective, it is about twice the demand for mechanical engineers and a little less than the demand for chartered accountancy trainees.

Computer manufacturers and service companies are the big recruiters in the sense that they want large numbers of graduates for computer work. One application may therefore give access to more than a hundred vacancies. The larger ones, such as service companies Logica and CAP, recruit and train new graduates on a larger scale.

Computer users may be big recruiters in terms of total graduates hired but the number of specific computer vacancies each has is much less. Graduates looking for a job in this group may need to make many applications. However, although the vacancies are widely spread this group accounts for around half to three-quarters of the total computer vacancies.

The jobs most commonly offered to new graduates are as computer programmers, systems analysts and computer operators. The relative availability of these three jobs is illustrated in Table 1. The predominance of computer programming is partly due to the

fact that many employers use this as an entry job and only transfer graduates to other work after a couple of years' programming experience. Unless you can convince these employers that you are likely to make a reasonably competent programmer, you won't get anywhere.

Under the general heading of computer programming, the work can vary considerably. In some cases, it may be mainly short programs which the new recruit can quickly learn to write, largely on his own. In other cases, programs are so large that a team is needed; the

create a big workload in adapting existing programs to fit the new system.

Different types of programming work suit different temperaments. Applicants should therefore try to find out during interview which type predominates, so that they can judge the relative attractiveness to them of working for that particular employer. A large company may well have all types going on at the same time. The key question then is how much say the individual programmer has in the jobs he is given to do.

What qualities does an employer look for in an appli-

Management consultant and adviser to the Standing Conference of Employers of Graduates, WILLIAM PRENTICE shows how 1977/78 graduates fared in computer work.



beginner may work on only part of the program and under close supervision. Some programs can be assembled by stitching together several more or less standard subroutines; others require development of new methods. In companies with a large library of established programs, much programmer time may be expended just in keeping them up to date with changing circumstances. Introduction of new computing equipment may

can't? Some are intellectual skills: power of analysis, logical thinking, accuracy, attention to detail and, of course, numeracy.

But programmers also need a considerable amount of social skill. Problems which arise during the writing of a program have to be discussed with suppliers of input data and/or program users. The programmer must be able to deal effectively with people at many levels and, when necessary, persuade them

| Degree Subject | Computer Programming | Systems Analysis | Computer Operation | Total |
|----------------|----------------------|------------------|--------------------|-------|
| Mathematics | 718 | 97 | 34 | 849 |
| Physics | 93 | 36 | 4 | 133 |
| Elect. Eng. | 36 | 35 | 6 | 77 |
| Chemistry | 39 | 12 | 1 | 52 |
| Geography | 39 | 11 | 1 | 51 |
| Economics | 37 | 7 | 3 | 47 |
| Biology | 33 | 8 | 1 | 42 |
| Bus. Studies | 29 | 20 | 2 | 51 |
| Geology | 24 | 6 | 2 | 32 |
| Psychology | 18 | 5 | 1 | 24 |
| Others | 1057 | 247 | 55 | 1359 |
| | 451 | 84 | 38 | 573 |
| | 1508 | 321 | 93 | 1922 |

Source: Universities' Statistical Record: private communication.

Table 1. University graduates entering computer work, 1977-78.

to accept his proposals. In addition, programmers often have to work in teams on particular projects.

Recruiters use interviews and other selection methods to judge an applicant's social skill. With the exception of specialist jobs, provided an applicant does well in their own selection procedures, most employers are relatively uninterested in the degree subject, class of degree and whether at first or higher level.

At first sight, Table 1 appears to give the lie to the statement that many computer jobs are open to graduates of any discipline. The "top ten" is dominated by science graduates and, in fact, when the "Other" disciplines are analysed, one finds that about 80% of all recruits in 1978 had degrees in pure or applied science. Nevertheless, many employers would like to recruit more non-science graduates: not only is there a shortage of scientists, but only a proportion of science graduates possess the requisite social skills.

Indeed, more applicants are rejected on this count than because they fail the aptitude test. The total annual output from UK universities of physical scientists (12,000) is slowly beginning to increase but there is a

shortage of engineers as well, therefore, intense competition for them. The output of the two numerate disciplines is much greater: arts (19,000), social studies (25,000) biological sciences (8,000) — a total of 52,000.

Volatile

Starting salaries for computer work obviously vary from one employer to another but, on the whole, to be at the upper end of the graduate spectrum. The market is volatile, making it hazardous to quote figures, but my guess is that most firms are now offering a base salary in the region of £4,500-£5,000. During the first two or three years, salaries in computing usually rise more rapidly than in most other fields. Thereafter, salary progression tends to depend on individual performance rather than fixed scales.

The argument that computing is a good starting-point for a broad business career is not borne out by my observation. Few graduates seem to leave computing once they start. They may leave their first employer for job mobility is common, but most go to another computing job elsewhere. Those who want a broad career should start by some other part of the business — computing is catching!

Systems Programmers

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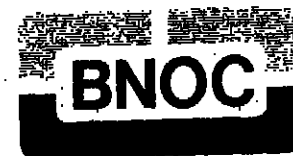
... with at least 10 years in Data Processing including 5 years in Systems Programming and at least 2 years in OS/MVS, plus section or team leading experience. He or she will ensure that the group provides the necessary support of production services to maintain a high level of service. Top-level salary envisaged.

Systems Programmers

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To find out more about these posts telephone David Sheldrake, our Systems Support Manager on 041-226 5555 Ext. 3623 or please write stating which position is of interest to you and quoting ref KWM/CW to: Ken Mearns, Divisional Personnel Officer, The British National Oil Corporation, 180 St. Vincent Street, GLASGOW G2 5LJ.



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Recruitment



in Informatics

IBM SNA & VTAM Specialists

Copenhagen: Salary to £20K

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in a Distributed Processing environment. Mainframe experience is also beneficial particularly with IBM 370/303X, VTAM Communications Access exposure. Our client has expressed a desire to recruit candidates with developed project control and leadership skills. First interviews will be held shortly in London after which short-listed candidates will be invited to Denmark for final selection. Ref: L/44/A

Software Support-Graphics

Home Counties: Salary to £8K + Car

One of the market leaders in the manufacture and sale of graphics terminals and instrumentation devices has a requirement for Analyst/Programmers. Successful applicants will be involved in pre-sales support, the installation of software packages and training customer personnel. Candidates should offer at least two years' Fortran programming

experience, preferably supplemented by C.A.I. exposure. It is anticipated that you will have a background in Mini-computers, but specific hardware experience is not important. In addition to competitive salaries, our client also offers a company car for all positions. Ref: L/44/B

Communications & Telephony

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System X is universally recognised as THE telecommunications system for the 80s and 90s. Such is the respect that Continental Europeans hold for System X that many of the Communications and Telephony Specialists who have developed the software are now in great demand. Our client, a leading Turnkey Supplier to European and Third World P.T.T.s has an immediate requirement for Communications and Telephony Specialists

with current involvement in public telephony systems and digital networks. Particular hardware exposure is less relevant than applications knowledge but familiarity with PDP 11, VAX 11/780, Intel 8086/8 or Motorola 6800 will be a distinct advantage. Successful candidates will be well remunerated and will receive an excellent relocation package. It is useful, but not essential to speak German. Ref: L/44/C

Database Analysts

Thames Valley: Salary to £13K + Benefits

A renowned International Supplier of Teleprocessing and Database Systems has requested LOGISTIX to identify and recruit several IBM orientated DB Analysts for its Regional Headquarters. Applications areas will include manufacturing, production and materials control, scheduling and trend forecasting. Software involvement will ideally have included one or more of: IMS, IDMS, RAMIS, TOTAL, DBOMP or MAAPICS. A

feature of these positions is the high degree of client contact in the form of seminars, product demonstrations, feasibility studies, reporting, time implementation and problem solving. For some positions candidates are not required to live locally although it is an advantage to reside within 25 miles of Reading. Ref: L/44/D

IBM Programmers

W. Germany: Salary to £17K

A multinational organisation with offices throughout Europe has requested LOGISTIX to identify and recruit five Applications Programmers for its IBM 4341 installation in W. Germany. It is essential that all applicants have a good programming background gained on any IBM mainframe computer. Of particular interest will be candidates who have working knowledge of COBOL, Assembler or

DL/I. However, if you have experience of any other commercial language, you should not be deterred from applying, as excellent in-house training will be provided. These positions represent an outstanding opportunity for career-minded individuals to enhance their technical skills whilst at the same time enjoying the diverse cultural benefits of another society. Ref: L/44/E

Telephony — Software Designers

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Points to watch for an engineer who wants a career in selling

I WAS recently discussing with a senior sales manager from a principal computer manufacturer the implications of employing sales trainees. The question was which kind of recruit stood the better chance of success, an experienced salesman with no product knowledge, or a product specialist with no selling experience.

My client had no hesitation in answering "I'll need a year to give relevant product skills to an experienced salesman and five years to teach a technician how to sell."

I must say, I felt no inclination to dispute his statement. I work for an organisation that specialises in the recruitment and training of salesmen and, from time to time, we are involved with the location of sales trainees for manufacturers of computer systems and supplies of computer services.

We generally divide the experience criteria we are seeking in candidates into three categories. One, three more years' selling experience within an industrial or commercial environment, particularly related to capital goods or technical services.

Two, a comprehensive knowledge of a particular business process within a specific industry. Three, direct involvement in the use of computers at the hardware and/or software level, as opposed to being merely a user.

Reality

These categories are rated 50%, 30% and 20% respectively in the context of experience criteria. We do not normally call for interview any candidate with a total qualification of less than 50%.

While this approach might appear less draconian than the attitude taken by my client, it emphasises the reality that it takes considerably longer to become a truly effective salesman than it does to become sufficiently conversant with a specific product to be able to identify its user benefits within the sales situation.

Often I meet technical people who are thinking of moving into selling on the broad justification of "How come he's earning so much more than me for simply travelling around and getting on well with people? He obviously has less technical competence than I and no greater personality, so why don't I get into selling?" It looks like an easy life.

Misleading

Such a conclusion can only suggest one or both of two misleading things - either the technician has no fundamental understanding of the qualities and responsibilities of a salesman or has never had any extended exposure to a true sales professional.

I don't intend to fall into the trap of compiling a dissertation into "what selling is all about", but it is important for engineers aspiring to a sales career to understand some of the functions and qualities that are essential ingredients of the salesman's role.

Prospecting is the process of identifying from cold the right individuals who have a requirement for your product, making a direct approach to that individual and persuading him by way of the telephone or direct approach that he should give up some of his precious time to discover why it will be to his advantage to buy whatever you have to sell.

Don't expect to be given prospects; the salesman's job is to find his own. The occasional bonus of prospects can only be regarded as a bonus. One has to accept the fact that a salesman is a hunter, merely a skinner.

Closing the sale

Selling is not merely the process of enabling the potential buyer to fully understand the product; it is getting people to like you and your product.

Nor is it about highlighting the product benefits and the advantages to the buyer. Furthermore it is not about being the best product at the best price on the fastest delivery.

All of these things help in the final analysis, it is about being for the order and getting it. It would be surprising how many intending salesmen fail because they simply cannot bring themselves to ask the buyer for the order.

Organisation

The successful professional salesman is a highly organised self-managing person who carefully plans every aspect of his activity, be it call rate, territory, management, self-training, prospecting, or individual client follow-up.

The salesman cannot operate efficiently without knowing the facts and he will never know them unless he has the talent to create an empathetic environment for negotiation, ask the right questions, interpret the real meaning of responses he gains, the needs, desires, the reasons why, that is that has to be filtered through an innuendo of language and social cues. They may sound a bit pompous but that's the way it is for the sales professional. And if it suggests a need for understanding human behaviour and psychology, it's that as well.

The big difference between selling and most other jobs is that the salesman is constantly involved in making work for himself. He identifies his own prospective clients, decides when he will visit, chooses what action should be taken, what time he will start, what time he will finish. Selling is the epitome of initiative.

Commission

One of the major factors that attracts many people into selling is the principle of having reward commensurate with achievement.

It is something which has no completely the reverse effect on an even greater number of salesmen. In other words, you only earn a high income if you succeed. If you fail you might have been better off working in a car wash. "So what has all this got to do with engineers in general and computer engineers in particular who are considering a move into selling?" I hear you ask.

I mentioned some of the functions and personal qualities demanded of the job, so first you have to ask yourself if you could handle those types of activities and have those kind of talents. If you believe you have, the next step is to see if you have the appropriate qualifications.

Going back to what I was saying at the beginning, in terms of selling applications and computer knowledge, it is fairly clear that

From page 24

the typical computer engineer would be unsuited to selling total computer systems.

A total system sale includes not only the hardware, with which the engineer has complete fluency, but also the system software (language processor and operating system) and the application software.

Right solution

Many engineers are practised in the use of system software, but in the process of selling a complete computer system, particularly to fit a first time user, it is knowledge of the problem to be solved that gives the salesman the credibility to close the order.

Absolute technical knowledge related to a computer system will not in itself secure an order for a production control system, but an intimate knowledge of the manufacturing industry and a real understanding of its problems will.

More often than not the choice of particular computer manufacturer within a total system sale is virtually irrelevant, it is the identification of the real problem and applying the right solution that gets the business.

So where does that leave the engineer who wants to get into selling?

If he has to have any chance of success at all, in terms of first get-

ting a selling job and then reaching a satisfactory level of achievement, he must make the attempt within a product environment where he already has total product fluency, namely computer hardware.

Entry

The easiest point of entry is computer peripherals, which are usually divorced from the complications of systems software. One is typically selling to a technical specification in terms of transfer rates, access-time and interfaces - chicken-feed to any competent computer engineer!

He can concentrate all of his efforts on learning the basic skills of selling and building up his confidence.

Selling hardware systems to educated end-users is possibly the next stage to which the ex-computer engineer can advance.

This brings most engineers into new territory, but the nature of the sale is still one of relative performance and specification rather than the applications problem that has to be solved.

Getting in

So how does the engineer get his chance to be a salesman?

Well, not typically with a new employer. He should move into a job within the organisation of his

present employer. Moving into a new job function is as big a risk for the employer as it is for the employee and companies are far less likely to take this kind of risk with strangers than existing employees who have already proven themselves in some other job function.

So if you want to be a salesman don't go applying for every selling job in town. Your chances of success are extremely low and the frustration very high.

It is far better to tell your manager and personnel department that you want to get into selling.

Their response may not be immediate, but if you are a valued employee, they will want you to have the opportunity of proving yourself.

Another benefit of making the change with your present employer is that you can always go back into engineering.

Having said all that, the current economic climate is not particularly conducive to the recruitment of trainees, either internally or externally.

At present, many major computer firms have stopped recruiting and, in some cases, trainee salesmen and graduate trainees have been made redundant. However, that doesn't prevent the seeds from being planted now for possible fruition next year.

One final and most important point about those seriously

This industry seems to be notoriously difficult for people without any "hands-on" experience to break into. On these two pages we look at how to get into selling from engineering, and the "wall" that faces would-be programmers.

The article on the left looks at the hardy perennial issue of whether sales staff need to know about the products they sell or not.

The author, who is concerned with recruiting people into DP selling, offers some useful advice for the initiate who wishes to make the move into selling and who will have to learn something of the art of making a sale.

On the right GULWANT DEOL, one of CW's secretaries since the summer of 1979, describes the steps she took to becoming a programmer.

She has found herself running into some exasperating difficulties. These are her experiences to date . . .

contemplating a move into selling or indeed considering a complete change of job function.

Do try vocational guidance. It is a method of personality testing which can identify with alarming accuracy the presence or absence within any individual of those human characteristics which are essential for success in a particular type of job.

The only organisation I know of which can provide such facilities at a reasonable price is the Vocational Guidance Association, a charitable institute in Upper Harley Street, London.

Catch-22 for this would-be programmer

AT school I was advised to do a computer studies course because, I was told, the computer industry paid well and held a great future. So I enrolled for City & Guild 747 Computer Programming and Information Processing course at Waltham Forest College.

The course began in September 1978 and was divided into four main subjects: hardware, information processing, related maths and programming. Students were required to complete six projects.

The hardware lectures were mainly about the history of computers, from Abacus to the third generation machines. We studied how they worked and also looked at other machines that are used in the computer industry.

The information processing lectures covered how data is processed and stored, systems flowcharts, decision tables, the kind of people in the industry, and the jobs they do.

Languages

We learned three computer languages: Cecil Plus, Cobol and Basic. The Basic programs were run on the college computer, a SWTP 6800 and the programs were stored on minifloppy discs. For the Cobol programs we used an ICL 1904 at the North East London Polytechnic and programs were stored on punched cards.

As for the six projects, we had to document them fully as one would in DP. This meant writing systems specifications, drawing systems flowcharts, program flowcharts, layout of the input and output data and the error listing explaining what went wrong and how it was corrected.

At the end of the course we were told that we had enough grounding to get us into the computer industry. In June 1979 I took the exams, which I passed.

I registered with a computer agency for a job as a trainee programmer or operator. I waited in the hope that they would come up with something, but I never heard from them.

Deol

I rang several major computer companies including IBM, ICL, NCL, Honeywell to ask if they had any vacancies for a trainee but they wanted graduates or those with 12 to 18 months' experience.

My hopes of becoming a programmer were slowly diminishing. I wrote to some of the users who advertised in Computer Weekly and the local paper, but it was the same old story . . . I had to have some experience and in order to get experience I had to have experience.

None of the users were interested in City & Guild 747 and some of them did not know what it was, although it is supposed to be widely known.

Perhaps users want to pinch someone else's trained staff. It certainly seemed to be that they weren't enthusiastic about training any themselves.

But if one is not given a chance to get commercial experience then how is one to get any? Any solutions?



international appointments

We are currently working closely with client companies to fill the following positions quickly. They are only some of the interesting positions that we have to fill. If you want advice or assistance with your career development or next move, please call in, telephone or write for prompt attention.

LECTURERS

West London £7-£9,500

Candidates for these positions will ideally have some supervisory or teaching experience, together with sound experience of the systems analysis or programming functions in medium-sized environments. More senior candidates should have a knowledge of transaction processing with minis and/or network communications. The positions are with a substantial systems manufacturer, expanding still and confidently building for the future. 102CW

SENIOR SYSTEMS ANALYST

CITY Up to £11,000

A large international transportation and distribution group, currently redeveloping several major import/export systems, requires 2 Senior Systems Analysts, having design experience on TP, Real Time, or Database projects. Candidates should have proven abilities and team leadership qualities. These are interesting and challenging positions in a major, developing organisation. 502CW

ASSEMBLER PROGRAMMERS

EAST BERKS. £5-£12,000

Not only are the modernised offices of this company based in rural Berkshire attractive, but the opportunity it offers to ASSEMBLER Programmers to participate in the development of a rapidly expanding range of products for office automation, make these positions doubly appealing. Our client has a strong commitment to the development of network word processing systems internationally. Company benefits vary according to level but include free BUPA. 103CW

DEVELOPMENT ANALYSTS

MIDDLESEX £7-£11,000

GRADUATES - Here is the opportunity to capitalise on your existing programming experience by joining the dynamic, but friendly, software development group of a computer manufacturer, leading in application technology for financial and commercial users. If you have 2 years' COBOL experience and wish to expand your design/development (using the latest on-line techniques) capability you should discuss these opportunities with us now. 101CW

SYSTEMS MANAGER

GHANA Negotiable remuneration

An important post with a leading, international oil group, holding responsibility for Management Services in a small 370 environment. The appointment is for one year and a substantial package will be negotiated. Candidates should have proven experience in programming (preferably RPG) and analysts with supervision of projects or a programming group. 501CW

SOFTWARE ENGINEERS

SWITZERLAND

Permanent employment is offered in Bern, Switzerland for experienced S/E's. Ideally you will be a graduate, experienced in the telecommunications area and be able to programme in ASSEMBLER. An attractive salary and comprehensive benefits package is offered to the right candidates. 256CW

Please write or telephone (24-hour answering) to apply. Quote above Refs.

(379)

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|---|--|------------------|--|--------------------|--|------------|--|---------------|--|-------------|--|
| 3. First Employer Town _____ Date Joined _____ | | | | | | | | | | | |
| TYPE OF INSTALLATION | | | | | | | | | | | |
| Commercial | | Bureau | | Insurance | | Scientific | | Manufacturing | | Engineering | |
| Hardware | | Operating System | | | | Languages | | | | | |
| Software or Packages | | | | | | | | | | | |
| On Line | | Real Time | | Time Sharing | | | | | | | |
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| Corporate Planning | | Marketing | | Petrochemicals | | Radar | | | | | |
| Sales Ledger | | Distribution | | Linear Programming | | Statistics | | | | | |
| Purchase Ledger | | Traffic Analysis | | Simulation | | | | | | | |
| Projects Completed | | | | Responsibilities | | | | | | | |
| PLEASE CHECK THAT EACH SECTION HAS BEEN TICKED APPROPRIATELY | | | | | | | | | | | |
| ADDITIONAL INFORMATION | | | | | | | | | | | |
| General | | | | | | | | | | | |
| Data Processing | | | | | | | | | | | |
| Terminals | | | | | | | | | | | |
| Software/ Packages | | | | | | | | | | | |
| Application Areas | | | | | | | | | | | |
| Projects and Responsibilities | | | | | | | | | | | |

Systems Analysts

Move into Banking

London E15 c.£10,000 + Banking Package

Our client, Morgan Guaranty Trust, is one of the world's leading international corporate banks. As part of a major new programme, it is developing a complete range of on-line banking systems to run on an IBM 4341 operating under DOS VSE.

To assist in this work the bank is currently seeking to recruit a number of experienced systems analysts. Applicants should ideally have experience of on-line systems development in a banking environment, or relevant analytical experience in the commercial sector. The successful applicants will have the advantage of a planned career development programme, offering wide exposure to modern banking techniques.

An extremely attractive benefits package includes low-cost mortgage schemes, annual bonus, non-contributory pension, medical and life insurance plans, interest-free season ticket loan and a subsidised restaurant.

For further details of this excellent opportunity, telephone or write to Kevin McCourt quoting reference 4349.

Planning/Modelling

Westminster c.£10,500 + BUPA etc.

Our client is a British Government owned company operating exclusively in the public sector overseas for the supply of defence equipment, technical support and the management of major infrastructural projects.

At present the Company's accounting and management information systems are based on computer bureau facilities accessed by means of on-line terminals. To develop these systems and ensure that the changing demands of a rapidly developing business are met, a new position of Systems Designer has been created.

Reporting directly to the General Manager, Planning and Management Services, the Systems Designer will be responsible for the preparation and implementation of a program for systems development. This will involve designing and specifying new systems, liaison with the bureau, supervision of programming staff in the development of new applications and advising management on the use of these systems.

Successful applicants will have several years analysis experience. A knowledge of either CALL AS, or another terminal-based, on-line information management facility would be advantageous.

For details, telephone or write to Kevin McCourt quoting reference number: 4363.

Retail!

Minis + Micros!

An exciting new venture in across-the-counter sales calls for a special brand of expertise. You will need an up-to-date knowledge of either minis, micros or wordprocessors and their applications, together with the experience or potential to move into a dynamic sales environment.

Excellent product and sales training will be given.

On target salary packages of c.£9,000 for senior sales people and c.£11,000 for management.

Contact Rebecca Goddard by telephoning or writing NOW!

20K + Car + Benefits

Our client, a major international computer manufacturer, seeks to recruit 2 additional sales executives to work in S.W. and S.E. England.

Ideally you will be in your late 20's, early 30's, with a proven track record in either minis or mainframes, and be used to dealing with companies who are not first time users.

In return, the company offers, an on quota package of £20,000, a chance to work under little supervision, and a highly efficient technical support group that enables their salesforce to get on with selling.

For further details telephone or write to Neil Hadfield quoting reference No: 4351.

Banking Project Leader (Programming)

London £10-12K

Our client is an International Bank based in South East London.

Running on IBM equipment, they are seeking to employ a Project Leader to supervise a programming team.

A thorough knowledge of COBOL and experience of CICS is essential. A good knowledge of telecommunications and experience of user liaison would be a distinct advantage.

Benefits package includes subsidised mortgage and usual banking package. For further details contact Kevin McCourt quoting reference: 4361.

ANDERSON JACOBSON LTD

Sales Executives

● We are a company that manufacture and sell computer terminal equipment and seek to recruit two enthusiastic young sales executives to join our expanding team, based in London and Birmingham.

● If you are under thirty, enjoy a challenge and are sales orientated, we offer a good basic salary, plus commission, company car and expenses. Your earning potential is up to you - the sky is the limit.

● If you are looking for a demanding role, with excellent career prospects, contact Neil Hadfield by telephoning or writing quoting ref: 4342.

DATA COM Salesmen

£8½K base + car + commission

Unilever Computer Services employs some 700 data processing professionals, and is one of the top three computer services companies in the United Kingdom. It has affiliations with a similar major U.S. company, and as part of the Unilever Group it enjoys the financial backing of an organisation which has an annual turnover of around £10,000,000,000.

DATA COM - one of the specialist divisions of the organisation is currently seeking to recruit sales professionals. In return for a high base salary, company car and an excellent commission scheme, the company expects salesmen to be self motivated and have the ability to generate new business.

Ideally applicants will have a knowledge of computer output on microfilm but all those who have sales experience and the ability to understand the computing services industry will be considered.

For further details of this opportunity to join one of the major computing services organisations in the U.K. contact Kevin McCourt ref: 4350.

Systems Programming Manager

London/Surrey £11-12K

Our client is looking for experienced IBM Systems Programmers with over 5 years' experience with knowledge of MVS and TSO to lead a team of 5 programmers in a major new development. For further information, write or telephone Neil Hadfield quoting ref: 4352.

Programmers

W. London c.£8,000

You should have a minimum of 2 years' COBOL experience on ICL 1900/2900 machines and be interested in moving into development work on a major project. For further details, write or telephone Neil Hadfield quoting ref: 4353.

S.W. England c.£8,500

If you are a Systems Designer/Senior Programmer with solid DL/I experience and are looking to join an expanding computer services division, contact Neil Hadfield quoting ref: 4354.

A Step in the Right Direction

Systems Analysts

North Middlesex up to c.£10,000

Our clients, a major British manufacturing company situated in North Middlesex are currently expanding their Data Processing Department centred on the latest ICL mid-range hardware. The company are currently seeking Analysts to become Deputy Team Leaders.

The Company offers:

- The opportunity to progress rapidly to Team Leader
- 5 weeks holiday per annum
- Salaries up to c.£10,000
- The normal benefits associated with a large company

Ideally you should have:

- 5-8 years commercial Data Processing experience preferably in an ICL environment
- A programming background
- Been responsible for design and implementation of a medium size system
- Been educated to degree level
- The ability to communicate well both verbally and in writing

For more information please contact Angela Walsh by either writing or telephoning quoting reference 4248.

Senior Programmers

North London/Hertfordshire up to £8,250

Our client is the largest British manufacturer of various television and audio products marketed under leading trade names. They have recently taken delivery of the latest ICL 2900 equipment and are looking to expand their programming department.

The company offers:

- Formal training in on-line techniques
- The opportunity to be part of a professional team
- The opportunity to learn structured programming
- 5 weeks holiday per annum
- The responsibility of managing Junior Programmers

Ideally you should have:

- 2-4 years commercial applications programming experience
- A sound knowledge of ICL 1900 or 2900 COBOL
- Be educated to degree level or equivalent
- Be ambitious and self-motivated

For further details please contact Angela Walsh in writing or by telephone quoting reference 4247.

Projects Manager

S. E. London c.£12,000

A world leader in the design, manufacture and marketing of bespoke high speed precision machinery, our client is seeking an experienced DP professional to lead and manage the development of a number of interesting applications projects in a technically advanced installation.

From a start date in the early 1960's, the computer has penetrated most areas of the company with particular emphasis on manufacturing and associated financial systems now running on a 4 megabyte IBM 4341 main frame and a large PDP 11/70 installed in one of the divisions. Approximately 50 V.D.U. terminals provide enquiry and interactive processing facilities and there are teleprocessing links between sites.

Candidates aged 30 plus, must have the personality, self motivation and confidence to effectively manage and communicate with all levels of staff and users in a challenging environment. The benefits package includes BUPA, 5 weeks holiday and flexible working hours. Assistance will be given with re-location expenses where appropriate.

For more details of this excellent position, telephone or write to Andrew Cousins quoting ref: 4362.

Analyst/Programmers

City c.£8,500 + 50% travel paid

Our client is a successful, expanding, manufacturing organisation. Their current requirements are for people with a minimum of 3 years COBOL experience. They offer the opportunity to gain analysis experience and be responsible for systems from feasibility through to implementation. They offer full training on database and on-line systems with excellent prospects to project leadership. A range of benefits include 50% assistance with daily travelling costs, flexitime, bonus, together with a negotiable salary. Ref: AW 4315

Consultants

Central London c.£10,000

Our clients, a leading Management Consultancy, are seeking to recruit Data Processing Professionals to work on a variety of commercial projects. You will have a degree or professional qualification and have a minimum of 3-4 years experience with a programming background. Opportunities exist to rapidly progress to managerial level and eventually to partner. Ref: AW 4326

Swiss Alpine Centre

Exceptional Opportunities for Programmers and Analyst Programmers to live and work in a regional cultural and economic centre. Our client has invested in the latest IBM mainframe, a network of DEC Minis and is developing systems utilising data base and communication techniques. A minimum of 2 years' IBM COBOL is required and experience of DEC minis would be of particular interest for one of the positions. Ref: AC 4360

Have you considered lecturing?

W. London to £9,500

A position as a lecturer offers a high degree of job satisfaction and variety with the opportunity to keep abreast of the latest developments in the computer industry. Our client, a major computer manufacturer, seeks people with a data processing background and the ability to communicate with people at all levels. Career prospects are particularly good and offer the opportunity to progress into a number of different roles within this highly successful manufacturer. Ref: AC 4348

Can we advise you on your career?

Lloyd Chapman Associates are a well known professional recruitment and selection consultancy with a wide spectrum of clients and opportunities at all levels, both in the UK and overseas. All our consultants have several years experience in data processing and are very able to advise you on your future career. We have specialist knowledge of the various opportunities and career progressions available to candidates.

If you are a young Programmer or a more experienced Systems Analyst or Manager seeking the next step we would be happy to advise you in developing your career. We would be able to help you move into a new exciting position with more variety and responsibility coupled with increased job satisfaction.

If you are seeking a new career, save time by filling in this application form and sending it to us now. Alternatively telephone Andrew Cousins (on the number below) for a personal discussion and an appointment.

Personal Please write in ballpoint, using block capitals.

Name _____

Address _____

Experience *Delete where applicable.

Machines

IBM 370/4300/others

ICL 1900/2900/others

Honeywell/Univac/

Burroughs*

PDP

Others (specify)

No of years

Applications

Commercial

Financial

Production Control

Manufacturing

Stock control

Scientific

Software

Database

Message switching

Communications*/TP*

Job Titles

Project leader

Systems analyst

Analyst/Programmer

Systems Programmer

Programmer

Consultant

Sales/Customer support

Others (specify)

ing off a log. This is not quite the case. Here we have a few tips and expose a few myths for the job hunter.

This shortage applies equally to most computing jobs, but as programmers are withdrawn from the melting pot to fill other jobs, so the programmer shortage becomes further aggravated. Always around the corner is the new system design language.



For this reason, always provided that you have passed the O-level gate of English and Maths you are, the subjects in which you excel, the subsequently qualified have little influence on the employment decision. I should add that I am referring here to some 80% of the jobs on offer, mainly in those organisations which use computers, rather than those which make them or provide some service associated with them.

Since you will almost certainly have to pass through programming to get anywhere else in computing, let me first discuss a few myths which might stand in your way. There is

LONDON · ST. ALBANS · LIVERPOOL · LEEDS · MANCHESTER · ROYNTON · BIRMINGHAM
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Please send for an application form to: Harry Cracknell, Standard Telecommunication Laboratories, London Road, Harlow, Essex CM17 9NA.
Tel: Harlow (0279) 29531 Ext. 361.

Ideas that work. STL

GREAT OPPORTUNITY

For a career-minded salesperson to realise their full potential. For the right person we offer:

- a ground floor opportunity where you can make a substantial contribution
- a dynamic growing company
- the scope to develop our marketing and selling activities
- a product of the 80s — minicomputers and commercial packages
- location in South-East England (Croydon based)
- Unlimited potential earnings plus an executive car

SALES MANAGER c.£15,000

We are a company providing the full range of computer services mainly in London and South-East England. Our aim has always been to provide a professional service of high quality in all areas of activity.

We have recently started selling Data General computers, with both general and industry specific packages. Our packages are written in COBOL and we are able to offer systems tailored precisely to our clients' needs.

We are based in an area with enormous untapped market potential for our products.

We have our own Data General Computer in our Central Croydon offices and a small high calibre pre and post-sales support team.

We are looking for an entrepreneurial minded salesperson who will make a major contribution to the development of our marketing and selling activities and the growth of our company.

You must be fully aware of the commercial interactive minicomputer market and have a good appreciation of commercial systems.

The remuneration includes a substantial basic salary and an initial guarantee. On target earnings will be £15,000 p.a. The package is geared to reward top performers with earnings among the highest in the industry.

For further information please contact BRIAN BATHGATE as below or outside office hours on Oxted 4571.

(1387)

FORCE 8
Computer services

8 Mint Walk
Croydon
01-680 3761

RN-SSK DIESEL-ELECTRIC SUBMARINE WEAPON SYSTEM NEW PROJECT : NEW OPPORTUNITIES SOFTWARE DESIGN ENGINEERS

The advent of a new class of submarine for the Royal Navy brings with it fresh opportunities for a system approach to the proposed weapon fit. As a significant part of a multi-million pound contract Vickers Shipbuilding Group Ltd. Weapons Department have been designated CO-ORDINATION AND SYSTEM DESIGN AUTHORITY with responsibility for overall system design development and performance amongst other tasks.

As part of the newly-formed team SOFTWARE ENGINEERS are required with particular responsibilities in a REAL TIME MICROPROCESSOR - based system for:

1. Specification, design and implementation of software modules for submarine weapon guidance and target analysis systems using high and low level language.
2. Analysis of Mathematical and Statistical methods particularly those concerned with target tracking (e.g. digital filtering technique).
3. Assessment of overall system considerations concerned with the procurement of a total ship weapon system.

Experience of submarine operations would be desirable.

QUALIFICATIONS AND EXPERIENCE
Honours degree or equivalent in maths or applied science plus at least 3 years experience of Software design for Military and Industrial real-time systems.

The positions are open to both men and women.
Please write with details of age, qualifications and experience to:
Mr J. Richardson, Personnel Officer,
Vickers Shipbuilding Group Limited,
Barrow Shipbuilding Works, PO Box No. 6,
Barrow-in-Furness, Cumbria, LA13 1AB

Vickers Shipbuilding Group Limited
A member company of British Shipbuilders

(218)

William Key SALES

Target earnings
over £15,000 p.a.
— no upper limit

CAPEX — a leading company in the software product market. The company develop and market products to optimise and increase OS and DOS programming and systems performance. The company achieved a growth rate of over 50% annually in recent years.

Applicants should have:

- a good appreciation of the operating and software environment of large IBM mainframes, ideally OS.
- worked as an Applications Programmer, Systems Engineer or Systems Analysts in an IBM environment.
- worked for at least one year in a sales or sales support capacity.

The company require a salesman to sell and manage an accounts area: they offer a basic salary plus car arrangement plus no limit sales commission scheme. Product training is given in Europe or USA and technical back-up is established in the UK and Europe.

For further information please write or telephone Jenny Dalrymple-Hay on 01-493 2947 (office hours) or Beaconsfield (04946) 4579 (evenings and weekends) quoting reference No. CW9835.

WILLIAM KEY & PARTNERS, 4 HALF MOON STREET, LONDON W1

MANAGEMENT & EXECUTIVE SELECTION

telephone 01-637 9611

NOTICE BOARD

Selling the Big Names ESSEX

Product & Marketing Managers
to £12K Basic + Commission + Car

If you're already involved in selling major manufacturers' equipment and would like to broaden your horizon, you should be talking to our client. They are a well-known Hardware Systems House with a wide range of quality mini and micro products, looking for experienced sales support engineers to help the sales team cope with the ever-increasing business.

Production Manager
to £12K + Car

Required to control all Production and Shipping Activities within the Company.
Further details on request.
Call Ruth Herman or Peter Gorton on 01-637 9611.

(1380)

GENEVA ↔ LONDON

Unique opportunity for an analyst/programmer to get involved with supporting and possibly marketing a new banking system based in Geneva and London. Experience of the Burroughs 2900 an advantage, however, you will need a sound knowledge of banking systems and a good grasp of commercial French.

Remuneration up to £12k + Car and normal bank fringe benefits

For more information contact Diana Williamson on 01-637 9611.

(1380)

Something Special in the City

to £10K basic
+ commission, car + benefits

Immediate and accurate information is the life-blood of the City. Our client, who is a major name in the financial world, provides an on-line data and administration service for stockbrokers, bankers, etc., and are acknowledged as market leaders. They are looking for a city sales executive with bureau and software experience to talk to existing customers and negotiate new business. It's an exciting opportunity to sell unusual and highly successful products in London's business centre.

If you're looking for something special in the city contact Ruth Herman on 01-637 9611.

(1380)

IBM EXPERIENCED COMPUTER ENGINEERS

Are required immediately in S.W. England and S. Wales for our client's multiple IBM 370 installations.

A large organisation with an impressive track record, our client offers a secure and progressive career with continued IBM systems training.

DEC or IBM PROJECT/ TECH. SUPPORT ENGS.

Are also required by this company in the Northern Home Counties. Candidates experienced on either IBM mainframes or DEC minicomputers will find these roles an interesting career progression. Naturally, salaries will reflect the importance of all these positions, and benefits will include a company car.

A generous relocation package is also available where appropriate.
Contact: Howard Wynne, Engineering Division.

(1380)

Suite 201/6 Albany House 324 Regent Street London W1R 5AA 01-637 9611

MANAGEMENT & EXECUTIVE SELECTION

2150

COMPUTER WEEKLY TOPS 94,000

Computer Weekly has reached a steadily increasing circulation since it was launched as the first of its kind in this country in 1966. Then the circulation was just 10,000.

The increase reflects a higher demand for the paper created by the growth in the computer market — a growth we continue to share.

COMPUTER WEEKLY'S circulation has topped 94,000 making it the highest of any UK computer journal.

The new figure will be revealed in returns to be published by the Audit Bureau of Circulations (ABC) for the January-June period this year.

HIGHEST CIRCULATION OF ANY UK COMPUTER JOURNAL

SYSTEMS PROG.

SURREY £11,000

3 1/4 yrs. DOS/VS experience under POWER. Knowledge of CICS/DLI an asset. Having recently installed VSE on a 4341, our clients require a S/P to take full responsibility for the system.

(TH1117)

CONTRACTS

370/DOS PL/1 & COBOL
370/OS PL/1 & COBOL
2960 VME/B or K COBOL
PDP 11/34 RSTS/E BASIC

SOFTWARE PROGRAMMERS

at all levels

CHIEF PROG.

CITY c£11,000

5 yrs. experience, including ability to direct and co-ordinate team of approx. 16 programmers. Preferably with knowledge of IBM COBOL under OS and Database techniques.

(TH1054)

SNR BUSINESS ANALYST

CITY to £11,500

Able to identify internal and external changes likely to affect the systems strategy, preparing revisions of the strategy and carrying out project tasks and supervising and developing staff. 2-3 yrs. exp. in managing small project groups. 4-5 yrs. business exp. 2-3 yrs. S/A exp. prof. including network design.

(TH1149)

SOFTWARE

IBM/ESSEX to £10,000

ASSEMBLER programmers, minimum 2 years' experience to work on a variety of TP Software developments including TP monitor, Distributed Data Processing. Knowledge of BTAM and/or VATM a distinct advantage.

(TH1012)

SNR. PROG.

HERTS. c£9,000

3 yrs. + DOS COBOL programming experience. Good knowledge of CICS (commercial level) database exp. an advantage. To develop existing system/assist with software and advise/train junior staff.

(WA1185)

01-404.0152

COMPUTER SEARCH LIMITED

Norwich House, 13 Southampton Place, London WC1

Computer Weekly is moving . . .

From Monday, November 10, 1980, Computer Weekly's editorial, advertising and production offices will move from Dorset House, Stamford Street, to:

Quadrant House
The Quadrant
Sutton, Surrey SM2 5AS
Tel: 01-661 3500
Telex: 892084 BISPRS G

datascene

PROGRAMMERS & ANALYSTS

SURREY, ICL 2900 COBOL to £9000
Our client is a well-established insurance company, situated within easy reach of Surrey, Sussex and London, who seek to extend their D.P. staff in the New Year.
They require COBOL programmers with at least one year's experience and analysts with not less than two years. In all cases a knowledge of the 2900 range is expected.
In return they offer a good pension scheme, a mortgage and a relocation package D.4654

PROJECT LEADER

SURREY to £12000
Our client is the computer division of a well-known group of companies who have recently expanded their processing power very significantly to cater for a heavy systems development plan. The company require an experienced PROJECT LEADER with in-depth knowledge of PAYROLL systems to complement their friendly systems development department. A minimum of six years' experience at a senior level working in COBOL will be needed by the successful applicant. Ref. R. 4770

RPGII PROGRAMMERS & ANALYSTS

NORTH LONDON, IBM SYSTEMS 34 to £9500
Good opportunity for experienced programmers, Analysts/Programmers and Analysts to join this rapidly expanding North London construction company. Applicants can expect a variety of applications whilst being served by a network of IBM system 34 Computers. Career opportunities within this group are excellent. Company benefits include a bonus, non-contributory pension scheme, four weeks' holiday. Ref. M.4437

BASIC + /BASIC + 2

VARIOUS LOCATIONS to £8000
We are continuously hearing of new vacancies for programmers and analyst/programmers in BASIC, BASIC+, BASIC + 2, or AIMS Experience ranging from JUNIOR to SENIOR LEVELS could open opportunities in BANKING, INSURANCE, LEISURE or SOFTWARE HOUSES, located in ESSEX, THE CITY, BERKS, SAUDI ARABIA and HANTS. Experience with DEC, PDP or SYSTIME equipment would be particularly relevant especially if combined with a FINANCIAL or ENGINEERING background. Ref. R GEN

RPG II PROGRAMMERS

LONDON CITY, IBM SYS. 32, 34, 38 to £8000
Well established software house specialising in Insurance and banking systems are recruiting RPG II Programmers. You should have at least 10 months' experience, preferably with IBM hardware and gained ideally within a financial environment. Client contact is expected and applicants will be dealing with management at all levels. Those positions offer excellent scope for capable programmers who wish to enhance their careers by utilising the latest IBM software and in-house developed database systems. M.4724

PROGRAMMERS

LEICESTER, IBM COBOL to £7000
The computer services division of a very well-known and reputable company are looking for programmers or analyst programmers to complete their establishment.
The installation uses both batched and on-line work to sister sites in the Midlands. Most development work is on-line.
A minimum of four years' commercial experience on IBM machinery is expected which will, hopefully, have included program specification writing.
In addition to the salary, the company offers a pension fund and restaurant D.4742

RPG II ANALYST PROGRAMMERS

LONDON CITY, IBM SYS. 32, 34, 38 to £10,000

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Services business set to overtake manufacturing in 80s

THE computing services business employs over 25,000 people at the present time, but it is expanding rapidly. Computing services are expected to overtake computer manufacturing, both in revenue, and number of people employed, sometime during the 1980s and they offer an excellent career to young graduates in a young and rapidly expanding industry.

Computing services consist of three businesses which operate in between the computer manufacturers and the ultimate computer users. For example, computer service bureaux actually process data for customers who do not own their own computers, while software houses provide programming and systems analysis for customers who need these services either on a specialist basis or to supplement their own limited resources.

Advice

But there is a whole range of computer service companies extending from data preparation bureaux at one end to high-level computer consultancies at the other.

Computer consultancies offer professional advice and assistance to their clients in the areas of management information, organisation studies, corporate planning, market studies, hardware and software selection, installation planning, systems audit and the use of advanced or

specialist computer techniques.

Systems and software houses provide software of two basic kinds. Systems software is concerned with the running of the computer themselves, including such items as the operating systems, the compilers, sort routines and standard utilities. Applications software, on the other hand, actually does the customer's work.

The software house may write programs in either category to the individual requirements of its clients, and this is referred to as custom-built software. Alternatively, the software may be written in a standard form to satisfy a large number of different clients, and this is referred to as package software or program products.

Systems houses are increasingly involved in supplying hardware, bought wholesale from manufacturers, as well as software to meet clients' requirements, and there is also a large area of business concerned with interfacing between the products of different manufacturers or between the telecommunications links and different computers.

Computer bureaux operate their own computers and sell data processing to a wide variety of different organisations. The bureaux may sell custom-built systems which they have written especially for each client and they then operate these on a routine basis.

Alternatively, they may offer package services where they operate the same program for a variety of different clients on a routine basis. Lastly, the bureaux may sell raw computer time to those clients who will be responsible for their own programming or simply need to supplement their own peak-load requirements if they are computer owners.

Where bureaux receive their input from a client by some form of delivery service, and where the printed output is distributed by the same type of service, this is known as local batch processing.

Time sharing

A second type of service is known as remote job entry, where the input and the output are distributed by telephone lines which may be either private leased lines or the public switched network.

Lastly, bureaux may offer a time sharing service or interactive service where the output is required to arrive at the client's terminal almost immediately after the input has been keyed in so that further input may be modified interactively on the basis of the output. With the increasing tempo of modern life and the demands for faster response from modern business, it is not surprising that the interactive services are the fastest growing of all computing services.

In addition to these three

main categories of employer in the computer service industry, there are a number of important, but smaller categories. One of these is the computer training or education companies, which are small in number at present but are growing exceedingly fast in view of the shortage of computer staff at a time of high unemployment. Other companies specialise in the recruitment of computer personnel, and although these are not large employers of graduates in total numbers, they have a high profile in the marketplace because of the large amount of advertising they undertake.

Other specialist companies include data preparation and specialist data input companies together with specialist data output companies such as Computer Output on Microfilm services. Independent maintenance organisations are also included in the computer service industry, and all these types of companies come together in one trade association, the Computing Services Association, which represents over 80% of the total computer services industry in the UK.

The computer service industry is characterised by the opportunity for rapid personal progress which derives primarily from its high growth as well as its lack of traditional structures. It has a wide variety of activities because of the dynamic nature of its market and the developing information



by Doug Eyeions

Dr Doug Eyeions is the director-general of the Computing Services Association, the trade body for firms that provide data processing, programming and consultancy services to other companies. A physicist by training, he was formerly technical director of Datasolve.

technology with its vast scope of applications.

An important aspect of careers in computing services is that opportunities do not depend solely on progression through conventional managerial grades, as in many of the traditional trades. Comparatively young technical staff carry status equal to that of their line management equivalents and can be even more highly rewarded.

Women find true equality of opportunity, rather than theoretical equality in an industry where ability and initiative count for more than age or sex.

Job rotation

In nearly all service companies people are encouraged to move from one kind of project to another. This job rotation provides them with a wide range of job experience which they would not obtain in user installations and the experienced graduate in a computer service company, or computer professional as he is known, will have a wide assortment of commercial and technical case histories to enlarge his experience after a few years.

It must not be supposed that computing services implies just "programming." Although this

• Turn to page 51

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No escape from the recession for the computer industry

A CALL from the editorial department of Computer Weekly — would I write 1,500 words on sales recruitment within the computer industry.

Something of an amorphous task I thought to myself, but as I began to make a few notes on some of the events of the past year I began to realise that there have been quite a few changes in the sales arena, not the least of which is a significant reduction in the number of selling jobs available.

With over two million unemployed and all the ensuing publicity, even the most ardent optimist must accept that despite its growth and technological glamour, the computer industry is no more able to avoid the effects of economic recession than any other business.

From the salesman's point of view, in particular, his ability to stay or get into a job is a function not only of his relative personal success but also whether his employer sees declining company revenue to be a justification for weeding out non-performers, freezing all recruitment, expanding the sales force or getting rid of it altogether. (In 1973 one major mainframe manufacturer sacked its entire sales operation overnight!)

The events of the past few months do not augur well for certain categories of personnel. One major manufacturer recently made over 100 graduate trainees redundant before they actually started work, while another sacked over 60 sales and sales support personnel. And its job ads in the

computer press have dwindled noticeably.

From my own company's point of view, October/November is traditionally one of the busiest times of the year with a significant portfolio of new assignments both committed and in the offing. While we are still reasonably busy, the number of forthcoming campaigns is significantly less than at the same time last year.

Another pointer to both a reduced availability of selling jobs and perhaps the increased stringency of sales management is a significantly increased response rate to advertisements.

Pressure

Certainly it is not a good time for low or high level trainees, be they graduates new to industry, technicians wanting to get into selling, experienced salesmen attempting to enter the computer industry or even experienced computer industry salesmen wanting to change product families, say, services to hardware systems or supplies to peripherals.

Sales management is being pressured into producing quick results, and for the first time in years a significant number of companies are below sales target. They, therefore, want salesmen who can achieve results in the shortest possible time. The typical 12/18 months learning curve of a systems sales-trainee, or even the shorter unproductive period of anything less than a fully experienced

salesman, is untenable to most sales managers in the currently depressed market.

There can be no doubt that the sales situation has become increasingly difficult for some companies over the past year, but obviously not all. I was speaking to a branch manager from a hardware manufacturer the other day and he said that business was reasonably good and his branch was achieving its numbers. However, they were having to put in twice the normal effort to get there and for the less able salesman the pressure was becoming too much.

The effect of economic recession on potential buyers could be said to force them into one of two camps: those who say that the effect of the depressed market is to starve them of finance that would otherwise be available for funding the introduction of computer systems or equipment (i.e. they can't afford the money) and those who believe that the increased competition of a reduced marketplace has increased the need for efficiency in production and the availability of rapid and meaningful management information (i.e. they can't afford not to introduce or extend the use of computers).

Similarly, there are those computer companies which put up the shutters or succumb to the traditional US weakness of over-reaction and immediately freeze all recruitment of salesmen (as well as other personnel of all kinds), or even start laying off support personnel and trainees. Conversely,

there are those companies which have the wisdom to see beyond the insularity of the annual budget syndrome and refuse to allow short-term setbacks to affect long-term strategy. If they have a plan to increase their market share, which in turn involves an increase in the size of their sales operation, they get on with it regardless. They have sufficient confidence in their own capability and the future of the industry to avoid punitive actions now which might cost them dearly in the future.

There are also companies and sales managers which see market recession as a time for really sorting out the sales team. They don't batter the hatches and luck in all the ineffective salesmen with the real performers; neither do they carry on as if nothing had happened. They make absolutely

salesmen to stick with "the devil they know" and weathering out the economic storm in a friendly port before venturing into the uncertain waters of a new employer and perhaps an unfamiliar marketplace.

Perhaps it is merely coincidence, but in the last few months there seems to have been a much higher proportion of sales managers and senior executives seeking new jobs than I have been accustomed to in the past. There also appears to be a greater number of salesmen who have left manufacturing to join the turnkey/OEM systems houses within the last few years and now wish to return to the fold.

In the first case one can only assume that the present market situation is putting more pressure on management to get the required

number of the job market has lowered the higher one's status, and the "low" which salesmen are always plenty of job opportunities available — until you are one. The number of opportunities for managers at any time is always less than the number of people seeking them. Consequently, any manager seeking to get into employment right now must consider the odds, moving one step back to move steps forward.

Megalomania

For many sales managers, only prospect of immediate employment is to take a senior job within a company where prospects of advancing back to management are a reality.

For many sales managers, the situation can bring about the realisation that they have been "ripped-off" by their own people, that the reduced pressure of greater freedom of territory does the best thing that ever happens to them! However, that may be a tolerable situation for your age run-of-the-mill megalomaniac.

The services sector trades well in periods of economic recession relative to the production of hardware supplies. The probably because the "business lull" implies less consumer than an on-site solution will capital investment up-front giving greater flexibility for now, or increasing usage at a notice. It does not involve just for total capacity from day one, but rather paying more as needed more.

Software houses also export do well in a depressed market, they too offer the opportunity of the end-user to reduce commitment by avoiding the employment of extra personnel and equipment, if perhaps at a higher rate, for only the essential systems and programming work.

Security

The project and technical applications oriented computer business are not typically as fortunate as their commercial application counterparts when it comes to economic recession. The customer for the end-user to cut when they are looking about cost savings are projects, particularly research and design jobs.

The point I am trying to make is that salesmen who may be thinking of changing their jobs, is that the sectors of the industry offer more job opportunities and more security than others, depending on the situation in the economic climate. Clearly, seeking re-employment is not made easier by a depressed market, but nonetheless, salesmen must try and avoid back to back look at oneself, or perhaps seek advice of an independent career advisor specialising in computer sales, and decide upon the type of job, company, product, etc. that makes sense within the context of individual career development.

Having made these observations on the marketplace as I see it, I am sure there are people who wish to dispute some of them. Certainly, I would not want to paint too gloomy a picture on the job opportunity situation for salesmen. My own company sales is currently handling over 30 selling jobs for over 30 companies so things are far from desperate. It's just that one becomes accustomed to an industry situation where every computer company is in need of experienced computer

by Alan Williams

The author is a director of Sales and Marketing Resources, of Victory House, Regent Street, London W1 and consultant within Sales and Marketing Services, an association of companies providing facilities for training, market research and the recruitment of sales and sales support personnel.

Alan Williams also writes Computer Weekly's regular feature, The Sales Bit under the pseudonym of Tom. His forthcoming book, The Selling Sequence is to be published by McGraw Hill next year.



sure the sales operation is carrying no passengers by getting rid of those salesmen who are not achieving the results expected of them. Then they replace them with people who are more likely to succeed and go in pursuit of ensuring that their company at least maintains its share of a shrinking market.

Delayed

One common feature of a market recession is the extension of the "selling-cycle", that period of time between first contact and the buyer's decision to purchase. It is difficult to assess whether this is a reflection of insecurity, the lack of confidence to be decisive, greater difficulty in generating funds, or what. Certainly the trend that often develops in this kind of economic climate is to delay the major decisions in the hope of better times ahead and just proceed with the minor and absolutely essential projects.

This kind of environment has a direct effect on the salesmen, of course, particularly those in a new selling job and operating on an initial minimum income guarantee against commission earnings. Decisions that could have been expected during the guarantee period are delayed, and as a direct consequence salesmen can find themselves earning basic salary only, unless their management has sufficient awareness to identify the problem for what it is and arrange for the guarantee period to be extended.

It is, perhaps because of the hazards of abandoning an existing prospect portfolio and starting all over again with a new company, against a backdrop of industrial recession and typical minimum income guarantee periods of six months, that is particularly

volume of sales than in an expanding environment, and those who don't make it are being axed, and/or management typically get to know before the troops when a company is heading for the rocks. In the other case, there is no doubt that turnkey systems houses have been badly hit by the present economic situation.

The great difficulty for this kind of sub-contractor organisation is professional credibility and long-term viability, particularly relative to those manufacturers who are now able to offer a computer based solution on a sole-vendor basis. Answers to the questions such as "who is responsible for what?" and "how do I know you will still be in business in five years' time?" become less plausible as time goes on. In a buoyant and expanding market where there is plenty of business for all, the average number of competitors per individual sales situation is typically quite low, and small companies can do reasonably well. Whereas, in a depressed market the number of prospects decreases and the total amount of sales activity increases with obvious results for the lower profile and less credible independent turnkey systems supplier operating on profit margins which do not make long-term sense for anything more substantial than a "cottage industry".

For the accomplished salesman the loss of his job through redundancy or the anticipation of his employer's demise is not too much of a problem in the computer industry. There are always plenty of job opportunities for the truly successful salesmen, whether their skills lie in computer services, hardware, peripherals, suppliers, software or whatever. However, it is a completely different case for as management is concerned. One

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(3431)

'Micros will leave no one untouched'

● From page 3

the breadth and variety of its fields and applications.

Information technology is generally defined in some such terms as "the combined use of computing and communications in information handling", but this hardly throws a blinding light on the situation.

The UNESCO definition is more precise, and more comprehensive: "The scientific, technological and engineering disciplines and the management techniques used in information handling and processing; their applications; computers and their interactions with men and machines; and associated social, economic and cultural matters."

Call by Labour

● From page 4

There can be an enrichment of our lives.

So we need to consider education for living: not, I would suggest, the "education for leisure" which has so often been suggested. I believe that we should bring into the framework of our thinking the concept of "own time", if we are to be released from the Calvinist ethic of work as the only moral and useful expenditure of time.

Free choice

We need to ask the question: what do we want to do with the time released from the factory floor, the shop counters, and the office desk? The choice must be free. Some may want to use own time for their own leisure and recreation. That is one option. Another is to use own time as part leisure and part "enriching community and person to person services" (within the framework of social services fully staffed by professional ancillary and full-time workers). My guess, and my hope, is that the free choice of most people would be to do both.

Whatever the options, and the choice of options, our educational system will need to adapt itself, at every level, from school to adult education. Far greater opportunities will be needed for children to learn about themselves and their community; about their talents

and potential beyond the framework of careers and jobs. Adults in the post-school and college stage must constantly be given the chance to develop their own potential for living. We are pretty far away from all that at the moment. Yet it must be done.

The alternative is a society which has thrown people on to a social welfare scrapheap with all the frustrations and social tensions which would result. It would not be a new "class struggle". It would be a beyond-1984 world of the meritocracy. It cannot be allowed to happen that way.

Challenge

But the challenge is enormous. It is a challenge to the conventional concepts of the educators. It is a challenge to industry. It is a challenge to governments. Above all, it is a challenge to us, as people. Do we want to use the chip to make our communities and our society more caring, richer in its values? That is the real question.

We say at the end of our report: "The key to our microelectronic future will lie in our own attitudes and our own will. The new technology could create a historic stage in the development of a socialist caring society, in which the quality of life for every individual is enriched. Can we see it this way? Can we insist on the policies we shall need? Can we envisage the wider horizons ahead?"

This is the definition to which the Advisory Council for Applied Research and Development (ACARD) worked in preparing its recent report on the subject.

As ACARD points out, the UNESCO interpretation covers a broad spectrum of activities, and takes in important sectors of the electronics industry (with an emphasis on microelectronics), much electronic equipment (particularly computers and their associated terminals, displays, etc.), the whole of the communications industry (including broadcasting and the Post Office), and all the users and suppliers of information (industrial, financial, commercial, administrative, professional and individual).

Clear focus

Industry and commerce cannot nowadays operate properly—or even at all—without access to accurate and up-to-date information in readily usable form, and consequently an ever-increasing proportion of the workforce in industrial countries is being employed in information handling. Little wonder, therefore, that the world market for IT products (and here I am quoting from the ACARD report) is approximately £50 billion a year, and is expanding at about 10% per annum in real terms.

ACARD considers that a significant UK presence in the information technology market is essential for our industrial success, and the report calls for, among other things, the establishment of a clear focus of responsibility within Whitehall to ensure the development of coherent policies in the IT field, and for the initiation of innovative public sector projects to demonstrate the potential of the technology.

ACARD presented its report on September 25 and the government has not yet completed its consider-

ation of it. It is therefore too soon for any detailed response to its recommendations. However, it is encouraging to see that the report is broadly in line with current government thinking.

For example, as a first step towards a more co-ordinated approach, the Department of Industry has already created a new Information Technology Division, and has united responsibility for the IT sector, Post Office sponsorship and satellite policy under one deputy secretary.

Leaders

Again, the ACARD report refers to the telephone and data networks as essential components in the successful development of information technology. Sir Keith Joseph's recent announcement of the relaxation of the Post Office

telecommunications monopoly is important in this context. This is because the proposed new regime, together with a more liberal approach to alternative services and satellite systems, is designed to create an environment within which IT can flourish.

The UK already leads in some applications of information technology; Teletext and videodata, for example; and opto-electronics. Government departments are already significant contributors of information to the public videodata system. Now to illustrate the advantages of an internal videodata network, the Department of Industry is exploring the feasibility of setting up a pilot system which will enable information to be input and retrieved at various locations throughout the Department.

Lastly, the ACARD Report suggested examples of ways in which

enlightened public purchasing could be used to pull through novel developments in IT. The government is a major user of IT, and as such is able to influence the market for this type of equipment through its procurement policy. Even at this time of severe financial constraint, cost minimisation, though an important criterion in reaching a purchasing decision, should not be allowed to stifle advances which could have an influential impact on industry and the user.

However, government can only do so much. Success in any field depends ultimately on the efforts of individual firms in industry and commerce, and on the skills, efficiency and enthusiasm of the people working within them.

The opportunities and rewards in these two areas are there and waiting.

The Liberal prescription

● From page 6

monetary policy, which requires large scale unemployment to do its work.

In the computer industry, where incomes are generally substantially above the average industrial wage, an incomes policy may not be so popular, but it is necessary, all the same.

People in DP should be very careful that they are not "used" by their unions to provide the serious effects on services required in industrial action so that we, the only people actually on strike in the dispute, take all the blame.

If the strategy of the Post Office unions in the recent telephone billing dispute is repeated too often, we could find that computers become even more unpopular than they are at the moment.

Legislation on data protection and privacy is long overdue; it is vital that every individual should

have the right to see, and to challenge, all data held on him.

Apart from the moral issues involved, the UK is losing valuable information technology contracts abroad, since other countries are unwilling to allow their data into "unprotected" Britain.

In addition, a recent survey of industry has shown that companies would like the government to get on with a legislative framework of data protection, since the longer it is delayed, the harder it will be to implement in the end.

Opportunities

Everybody seems to agree that we need a strong electronics and DP industry—or at least that is what they say in public.

Labour says how we should "grasp" the opportunities—but then goes on to suggest that GEC should be nationalised, and the

chip "controlled", whatever that means.

The Tories talk of how we all need to be more "competitive", and use technology at every opportunity—but fail to provide the basis of government support which is necessary for our high technology industries to survive.

The unions talk of "sharing the benefits of technology" but all too often, when it comes to the crunch, resist that very technology in their own industry.

The general public is at the same time fascinated by the new possibilities opened up, and confused and fearful about how it will all actually work.

What we need is a really positive lead from all the opinion leaders of the country—government, opposition, management and unions—to get us all going in the right direction.

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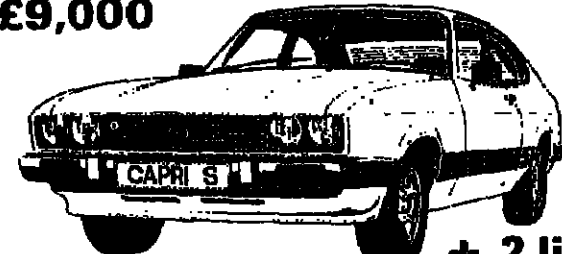
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(3321)

Computer Weekly is moving...

From Monday, November 10, 1980, Computer Weekly's editorial, advertising and production offices will move from Dorset House, Stamford Street, to:

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DP salaries still ahead of inflation

THIS year has proved to be one in which DP has taken off in a big way with distributed processing coming into many other areas than its conventional application to accounting.

In recruiting for appointments in manufacturing, marketing, design and finance, a recurring theme has been the requirement that the people appointed should have first-hand experience.

In a number of major users, established DP departments have been disbanded to make way for minicomputers capable of running a number of real time applications simultaneously with multiple terminals sited in user departments. Nowhere is the change greater

The author, LAWRENCE LOCK, is managing director of Management Personnel, the recruitment, selection and advertising consultants. Its autumn salary survey for South-east England showed that most DP salaries had increased ahead of inflation. This article looks at what is perceived as an increasing demand for computer personnel.

than in the office, with secretaries becoming proficient in the use of terminals for word processing. This is quickly broadening into information processing with, for example, personnel departments maintaining employee records in this way with almost instant access to the records of particular employees.

This can cover such tasks as the

automatic generation of letters for union or sports and social club membership, the pensions scheme, training courses, performance appraisal, salary review and long service.

The list processing aid is used to select automatically and write to employees based on their age, joining date and qualifications.

The information revolution is upon us and in at least one large company we know of electronic mail already exists, with messages transferred between 2,000 users of the system.

The upsurge in DP is reflected in the recruitment scene. Many of the current job opportunities are with computer manufacturers and distributors for applications analysts and programmers, electronics technicians and sales and marketing people.

Short

In a recent survey of 50 firms in the south east, only computer manufacturers said they would be expanding, several of whom said they would need new staff. Demand, however, continues to outstrip supply.

The Institute of Manpower Studies' January report estimated that the UK is short of 17,500 DP staff, particularly programmers, suggesting a failure by users over

the past few years to take in trainees.

Very little appears to be being done to alleviate the shortage, employers preferring to recruit experienced computer skills.

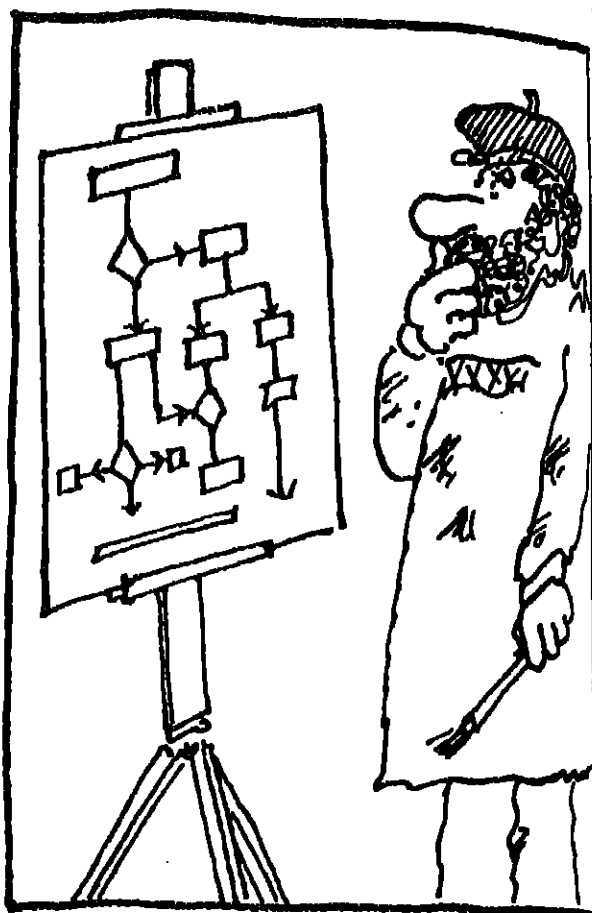
The report said: "Demand for trained and experienced computer people, particularly analysts and programmers, is again running ahead of supply. The shortage has had the effect of bringing about some fairly substantial increases in this section, although overall only in the order of 24%.

Lower

"The role of management services managers seems to be less in evidence than it was two or three years ago and, although well rewarded in large companies, seems to be an either/or situation in the small to medium sized company, with the data processing manager often fulfilling a similar function. Management services managers have increased by 10% and 12.5% at the 'high' and 'low' respectively.

"The median is lower than a year ago, bringing it only slightly ahead of data processing managers whose salaries have increased by between 16% and 20%. Systems and programming managers are up by 15% at the 'low' and median but only 5% at the 'high'.

"Project leaders are up between 16% and 20% but senior systems analysts have moved ahead by 25%, though systems analysts only between 13% at the 'high' and 21% at the 'low', with a median of 18%. Analysts/programmers have moved up by between 22% and 25%.



"From a sample of 22 systems programmers, substantial increases of between 30% and 50% have been recorded, suggesting that last year's sample was unrepresentative.

"Programmers appear to be the area of greatest shortage. Analysts/programmers, senior programmers and programmers all recorded increases of between 25% and 42%. Trainee programmers, too, have moved ahead with 25% at the 'low' and median but only 11% at the 'high', thus narrowing the range paid for this job.

Opportunities

"Operations staff generally have moved up by between 20% and

30% with the exception of operations managers at the 'low', 10%, and senior operations at the 'high', 50%. Operators are up by 24%, trainee operators by 30% and presumably in an attempt to attract more people into the profession, Data control supervision roles between 5% and 10% but preparation and data control have moved ahead by 28% and 25%.

My conclusion is that employment opportunities have been greater in DP and this area to which this year's school-leavers should be directing their attentions, for the majority of some leading computer manufacturers to their quota of graduates.

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Application forms and further particulars are available from The Administrative Assistant (3613/2), The Student Computing Service, The Open University, Walton Hall, Milton Keynes, MK7 8AA, or telephone Milton Keynes (0908) 663683; there is a 24-hour answering service on 663686. Closing date for applications: 21st November, 1980. (3409)

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SPD GROUP
BUSINESS SYSTEMS

Aptitude tests are
entry to programming

● From page 32

teachers, books, audio or video courses — any means of learning to program. The preferred languages are Cobol and Basic; as far as the majority of employers are concerned, Algol and Fortran, both respected and respectable scientific languages, come nowhere.

Having learnt to program, don't then waste your efforts on trivial mathematical applications — but ideally look for some problems in your own discipline, or in your social life, and write programs that will provide solutions to those problems.

The people who go out and find what the business problems are and decide how they can be solved using computers are generally similar in their interests to programmers, with the important exception that they tend to prefer pursuits associated with people rather than with things.

Chore

If this is your profile, you may well find programming rather a chore, but unless you can find one of the few employers sufficiently enlightened to recognise this essential difference between the two types of person, you are almost certainly going to have to put up with that

chore for a year or two before getting to do what you really want to.

Perhaps it may be some comfort to reflect that those accountants who become financial controllers, financial directors, or even chairmen of companies have had to spend a few years putting their little red ticks against other people's figures before they were deemed capable of thinking about the import of the figures.

The way upwards into management in computer-using companies tends to be from systems analysis rather than from programming. There is a hierarchy within programming up to programming management, just as there is for systems analysis and for computer operating. Typically, though, the boss of all these people, the data processing manager, or management services manager, has arrived at that position through systems analysis.

In an enlightened firm, this person will be immediately below Board level, or, exceptionally, on the Board. "What," you may ask, "if I find myself with an unenlightened firm?" The answer is simple: read the job ads in the back pages of Computer Weekly.

Once you are working in the hardware or software industry,

the opportunities to go anywhere and do anything are almost boundless. But if you sit in a corner and are content to do what you are given, you may well find the firm content to leave you there.

Scope

There is enormous scope for people with ideas and initiative, and above all with the urge to do something. In many professions there is a ladder; in computing there is a tree (see Figure 1) which is constantly growing and proliferating; so forget any worries you may have had about obsolete skills.

The barrier not mentioned so far is the dreaded aptitude test. Some tests by that name are no more than general intelligence tests. Most employers demand a score higher than that needed for programming, but with the programming tree in mind, this may not be completely unreasonable. Other tests model the

programming languages of yesterday, and there can be little doubt that many potentially useful people, even many of the potentially most useful people, are rejected on the basis of such tests.

If you want to practise for the intelligence type tests, then familiarise yourself with the various books on IQ testing; if you fall one of the other type, then take your talents to a firm that deserves them. Computing needs you.

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3. Data Processing Staff Selection — A Validation Study, by G. Penney and A. J.

I WONDER IF IT'S GOOD FOR IMPRESSING GIRLS...



Lazzerini, NCC Publications (1979). £5.00.

4. An Investigation into the Career Structure, Job Content and Vocational Interests of British Data Processing Staff (1970), by E. Weather-

by, S. Blinkhorn, G. Penney and D. Simpson. NCC Publications. £5.00.

5. A Career in Computing (1979), by G. Penney. Published by Input Two-Nine.

Services on
growth path

● From page 38

edge over the non-graduate salesman in this area.

Research and development obviously offer considerable scope for the employment of graduates. They will be required to initiate products and ideas, design and develop systems, prepare functional and systems specifications for customers' needs choosing appropriate means of processing, input, output and communications.

Programming and systems analysts obviously again offer excellent careers for young graduates. The work would involve planning, structuring and developing the programs according to design specifications, or the design and specification of systems. Work has to be done to tight deadlines and cost control procedures because as service companies are relatively small, they have to keep their costs down.

Implementation management. Graduates are also employed in this area, which involves planning, organising and managing the effective implementation of computer projects.

Attractive

Computer consultants are almost exclusively graduates or have some equivalent professional qualification. They provide professional advice to users on technical or management topics related to computers.

To become a consultant, senior consultant, managing consultant and head of consultancy is one of the more attractive of the career paths offered by computer service companies. The larger software houses and the larger bureaux both offer consultancy career paths of this type. In addition, the specialist computer consultancies concentrate solely on this type of work.

Graduates are not greatly involved in operations in computer service companies — the trainee operator normally comes straight from school with GCE

or else from a TOPS or similar course. However, the control of complex systems and network configuration does involve the employment of some top-level technical graduates who have come up through the systems programming career path.

Having described the opportunities for graduates, it is important to point out the types of graduates that are needed by computer service companies. Because the industry is young and progressive it is particularly unusual in that it can offer equal opportunity to intelligent young people of all educational backgrounds. Arts, economics and science graduates are at no disadvantage with mathematicians and engineers.

Environments

Nevertheless, many groups such as computer scientists, electronic engineers and accountants will find opportunities for using their academic training for directly from the first day they enter the industry. All groups will derive satisfaction at the speed with which they will learn and employ new skills and knowledge.

Prospective employers in the service industry range from divisions of large national corporations to small private companies and they provide a broad spectrum of environments in which the newcomer to the industry can choose to work.

Careers officers should know about the CSA and its members. All final year undergraduates are advised to look out for CSA computer service companies on their visits to colleges and universities. It is also quite acceptable to write directly to some of the companies whose names have received publicity which interests the potential employee.

● The CSA publishes a list of member companies that are looking for graduates. A copy can be obtained from: Computing Services Association, 5th Floor, Hanover House, 73-74 High Holborn, London WC1V 6LE.

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SYSTEMS PROGRAMMER with a first-class Assembler background and, preferably, a knowledge of SIEMENS BS2000 and CSAM for an immediate (or close to) start.

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MANAGER for SYSTEM DEVELOPMENT DEPARTMENT will hold responsibility jointly for total policy and completely for supervision of circa 175 staff engaged in development and maintenance of applications programs. Must be a proven manager who, although not a specialist, nevertheless has a reasonable degree of computer knowledge and experience. An academic or equivalent education is looked for and ability to either speak Dutch, or learn quickly, is mandatory. Basic salary package negotiable to Guilder equivalent of £21,000. Here location is Utrecht — and is a 'client permanent staff' position.

IN UK and for our clients' permanent staff:
1 DEC POP 1140 PROGRAMMER with minimum 1 year using BASIC+ Location: Bournemouth Salary: £8000

2 SYSTEMS PROGRAMMER with minimum 2 years Assembler. Salary: £9000 SYSTEMS ANALYST having 5 years experience and previous ± 2 years in programming is also held. Knowledge of Life Assurance application will be preferred. Salary: £7/8000

SENIOR OPERATOR with 2/3 years experience, plus the ability to write JCL. Salary: £5/6000

Positions are for a 30/31 environment under OS/VS1 with CICS. Relocation allowances are available, plus subsidised mortgage facilities. Location: Bournemouth.

3 SYSTEMS ANALYST/PROGRAMMER for a SYSTEM 34 environment, with minimum two years RPG 11. Installation is new and the system has to be set up. Possibility of promotion to DP Manager within nine months. Travel to overseas locations may occur. Location: Maidenhead Salary: £9500 plus bonus.

4 TWO PROGRAMMING TEAM LEADERS with minimum 4 years experience. First required for 1903 PLAN-TO-COBOL conversion and second for systems development. Salary: between £7,500/8000 with January review.

SENIOR PROGRAMMER with 2/4 years experience. Salary: £6500 with June review.

PROGRAMMER with 1/2 years experience. Salary: £5700 Hardware 2860 under VME/B and COBOL. Some Fortran knowledge would be advantageous. 40 hour week with 8.15am start. Relocation costs available to householders. Location: Southampton

5 TECHNICAL SUPPORT CO-ORDINATOR with strong operating systems background, including some TP. Salary: minimum £9500

SENIOR SYSTEM ANALYST with minimum 4 years experience, preferably in manufacturing area. Salary: £9500

SENIOR PROGRAMMER with minimum 3 years COBOL plus good TP. Salary: £5700

Hardware 2 x 2860's under VME/B plus DB mini network. Location: Basingstoke. Relocation allowance possibilities.

6 TWO SYSTEMS ANALYSTS — first with project control, DB/TP experience and professional qualifications. Second with expertise to help sell the time-sharing service. Salaries: between £8/9000 Relocation allowance possibilities.

Hardware Honeywell L68 — with training if required. No programming involved. Location: Winchester.

7 TWO SYSTEMS PROGRAMMERS with minimum 3 years experience. In one case, IBM background required, but Univac training will be given. Salary: £9000 max. Salary range: £7/9000

Hardware Univac 1100/62 with OS 1100 & TIP Location: Gatwick area

8 SOFTWARE AUTHOR with minimum 2 years writing, for commercial business applications (office automation) work. Software engineering background covering either Operating Systems, Compilers, Communications, Business or Laboratory applications is essential. A Programmer, Analyst or Instructor having a proven command of written English could be considered. Location: Reading. Salary: £6/8000 upwards.

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Tonka Toys

IBM SYSTEM/34
Henry-on-Thames
FRANCE IBM 6280
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EUROPEAN SYSTEM CONTROLLER

Immigration Package £10,000

The TONKA EUROPE CORPORATION is transferring its headquarters from Belgium to Henry-on-Thames. An IBM SYSTEM/34 will be transferred to Henry-on-Thames in Spring 1981. An IBM 6280 system in France, Belgium and Germany will be transferred to Henry-on-Thames. An experienced computer specialist to join the management team based at Henry-on-Thames and to undertake the following:

- Control of the System/34 in Belgium up to the date of transfer.
- Planning and execution of the transfer of the computer to Henry-on-Thames.
- Establishment of the IBM 6280 links in France, Belgium and Germany.
- Specification and development of further applications for Tonka.
- Management of systems operations at Henry-on-Thames, and coordination of IBM 6280s which will require some continental travel.

The job calls for a combination of organisational and technical skills and a substantial degree of self-motivation in a position of responsibility, reporting to the head of the European Corporation; will also be based in Henry-on-Thames.

Practical experience of the IBM System/34 will be an advantage, but not essential. The successful candidate will be of more importance than those who consider they have the necessary specialist skills. Those interested in the position are asked either to write, or telephone (in time).

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Currently 2,000 staff are employed to process this work, mainly in centres situated in Northern England. The suitable candidate must have experience in the design and implementation of computer systems.

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The job entails controlling and supervising teams of Analysts and Programmers involved in Systems Design program writing, testing and implementation. The candidate will be closely involved with the design and development of new systems and the design of computer systems.

Application form, role specification and further information available from:
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What do we program—machines or people?

"OUR bureau provides you with state-of-the-art technology and with unique features to solve your problems." I parody a statement which might appear in any brochure or publication advertising any computer installation. In terms of machines, that advert could be true.

But a bureau doesn't just provide a machine service; it provides a complete service. It provides a combination of machinery and people in order to help clients with their work.

If I, now an outsider to the industry, buy a system from a manufacturer, I have also to buy skilled people in order to be able to bind the two and make a successful operation.

The question I would like to pose to the readers of Computer Weekly is whether they apply the same resources to managing the people side of their operation as they do to managing the system side of their operation.

If salary costs amount to 30% of your budget, and machine costs represent 40% of your budget then the people to systems management cost ratio in the same proportion of 3 to 4?

Failure

The computer industry now has a wide range of techniques available for selecting people at the bottom — such as data preparation clerks and computer operators — in order to check their ability to understand the technology and to be numerate.

It also has an effective method of selection at the top since success at this level can be measured easily by numbers with a pound sign in front at the end of the year. The question I have posed above refers most accurately to first and second line management.

Management is about achieving better results through people. Since the quality of the output

of individual people is probably the biggest limiting factor of the industry's growth then the successful user is going to spend as much time and effort in developing its people as in developing its machinery.

At this point we ought to distinguish between a person's technical skills and his management skills. Anyone of experience in the computer industry knows of the example of the brilliant programmer who, when made the programming manager, finds himself out of his depth.

In an industry where the level of intelligence is above average, there is probably plenty of intellectual power available. The poor programming manager is facing problems which probably have a different method of analysis and for which he has had no instruction about possible solutions.

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So often as I go round, computer-people identify as being "ICL men" or "IBM men" or whatever, identifying with the manufacturer of the machinery rather than the organisation that runs them.

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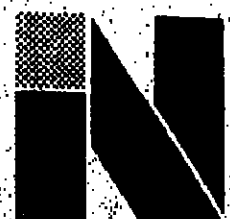
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FRANK FRANKLIN
- Programmer

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